

RIVERSIDE HIGHLAND WATER COMPANY

2010

**URBAN WATER MANAGEMENT
PLAN**

May, 2011

PREPARED FOR

**RIVERSIDE HIGHLAND WATER COMPANY
12374 MICHIGAN STREET
GRAND TERRACE, CA 92313
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AND
MANAGEMENT**
(As of April 2011)

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SECTION I

INTRODUCTION

This “Urban Water Management Plan”, calendar year 2010 update is prepared in accordance with the California Water Code, Division 6, Part 2.6, URBAN WATER MANAGEMENT PLANNING, Sections 10610 through 10657. The changes made to the 1999 legislative session by the 2009 session have been followed.

Section 10621a of the Water Code requires “Each urban water supplier shall update its plan at least every five years on or before December 31, in years ending in five and zero”.

The basis of this “Plan” will be the year 2005 “Urban Water Management Plan” adopted by the Riverside Highland Water Company (Company). There have been numerous changes required in the “Plan” from the 2005 Year version to the present due to legislative and judicial actions and these changes will be followed.

This update is a continuation of the series filed with the State Department of Water Resources in 1986, 1991, 1995, 2000 and 2005.

SECTION II

COMPANY HISTORY AND SERVICE AREA

2.01 Company History

Riverside Highland Water Company (Company) is located in the semi-arid “Inland Valley of Southern California, approximately fifty miles easterly of Los Angeles. The Company is the successor to the Vivienda Water Company, which was part of the Highest Riverside Mesa Scheme. The Vivienda Water Company was incorporated in August 1887, with a capital stock of \$ 250,000 in five thousand share increments of \$ 50 each. The Vivienda Water Company was operated in unison with the North Riverside Land and Water Company and the Jurupa Land and Water Company, under one management for the development of water for irrigation of lands on both sides of the Santa Ana River.

The Company was incorporated and certified as a Mutual Water Company by the California Secretary of State on February 21, 1898, for the purpose of providing domestic and irrigation water to its shareholders.

On February 28, 1898, the Company held its inaugural organizational meeting and has operated continuously to this date.

2.02 Service Area

The Company provides domestic and irrigation water services to the City of Grand Terrace, portions of the City of Colton, and portions of the unincorporated areas of the Counties of San Bernardino and Riverside. The water service is to single and multi-family residential, commercial, industrial and agricultural users.

With the rapid urbanization of agricultural areas within the service area, a decline in the irrigation water demand is showing. In most cases, the agricultural water demand is replaced with domestic demand. Large parks and greenbelt areas are continued to be serviced with irrigation water which is non-potable due to a nitrate content which is in excess of drinking water standards. This will leave the potable water available for drinking water use.

Exhibit 2-1, showing the service area boundary of the Company is included.

2.03 Climatological Data

Climatological data indicates that the highest recorded temperature at the San Bernardino area has been 117 degrees Fahrenheit (F) and the lowest 22 degrees F. The area receives an average of about 15.7 inches of precipitation as rain annually. The precipitation occurs mainly during the period from November through May of the following year. The mean daily maximum temperature is 80.2 degrees F and the mean daily minimum temperature

is 49.3 degrees F. The agricultural irrigation system has averaged 253 days per year in the Company service area.

2.04 Population

The service area of the Company is nearing about 85% built-out with the developments currently under construction or approved by the planning departments of the governing agencies. The major service area of the Company is the City of Grand Terrace. Within the current “Master Plan” of the City, a population projection prepared by San Bernardino Association of Governments (SCAG) is used. The Housing Element of the City was updated in December 2003 shows population figures for the years 2000 and 2020. The two projections are shown below.

TABLE 2-1

**City of Grand Terrace
SCAG Population Projections**

Year	Population
2005.....	12,374
2010.....	12,928
2015.....	13,375
2020.....	13,817
2025.....	14,239

TABLE 2-2

**City of Grand Terrace
Housing Element Population Projections**

Year	Population
2000.....	11,626
2025.....	14,239

The household size shown in the census tracts for the area in the 2000 census was 2.88 people per household. To estimate the population forecast for the years 2010 to 2030, we will use the population of the City of Grand Terrace plus an addition of 15% for areas served outside the City. To this number will be added the new developments approved and under construction within the service area. Most all of the new development is within the unincorporated area of Riverside County and the housing units are known.

Based on the 2000 Census of 2.88 persons per household, and assuming an increase in density to 3.2 persons per household and utilizing the Company records of domestic water connections for households, the Company projects the following for population increase within its service area shown in Table 2.3.

TABLE 2-3

**Population Projections
Riverside Highland Water Company**

Year	Population
2000	11,626
2005.....	12,000
2110.....	12,000
2015.....	14,000
2020.....	17,000
2025	20,000
2030	22,900

**EXHIBIT 2-1
SERVICE AREA BOUNDARY**

SECTION III

EXISTING AND PLANNED SOURCES OF WATER SUPPLY

3.01 General

The water supply for the Company is from five (5) separate groundwater basins. These basins have been adjudicated in the “Orange County vs. City of Chino et al, Case Number 117628, County of Orange” Judgment (Orange County Judgment) and the “Western Municipal Water District vs. East San Bernardino County Water District et al, Case Number 78426, County of Riverside” Judgment (Western Judgment). In addition, the Company has entered into an agreement with the San Bernardino Valley Municipal Water District (SBVMWD Legal Document 1487, approved January 18, 1990) for a maximum of 1,000 gallons per minute of water from the “Districts’ Base Line Feeder” project. Water obtained from this project will be assessed against the Company water right in the San Bernardino Basin. This agreement was made with the understanding that it is a standby agreement and the water delivery to be made only at the Company’s request. The Company has 13 wells constructed in the groundwater basins of which eight (8) wells produce potable water for domestic use, two (2) wells which produce non-potable water at this time for irrigation purposes (reason for non-potable classification is nitrate which is in excess of State Drinking Water Standards) and three wells dedicated to pump water from the Bunker Hill Basin to lower the groundwater due to encroachment of the water into structures. This basin pump-out is being done within the San Bernardino Valley Municipal Water District’s program to lower the groundwater and the water extracted is not assessed against the water rights of the Company.

The Company has the right to construct new wells within its service area and outside of its service area. As the need arises, the Company will construct new wells and place them in service as future projections show the need.

The Company has been providing water to nearly all of the lands in its service area for over a century. A large portion of the water service has been irrigation water for citrus groves. A large part of the citrus groves are being taken out of production and the trees removed for land development projects for housing, commercial and industrial use. The water entitlements of the Company used for irrigation are being converted to domestic supply, not requiring additional water rights to meet Company demands.

3.02 Water Basin Descriptions

A general description of the groundwater basins in which the Company extracts water supply and all of the water supply sources within the San Bernardino area is contained in Chapter 3 of the Regional Water Sources (see Appendix G).

SECTION IV

GROUNDWATER BASIN MANAGEMENT

4.01 General

The Basins of the Santa Ana River Watershed are among the most rigorously managed and regulated in the State. Planning and Management efforts evaluating groundwater needs and supplies have been established for most of the Basins within the watershed covering up to the next 20 to 40 years.

The Santa Ana Watershed Project Authority (SAWPA) has prepared the “2005 Regional Groundwater Management Plan,” a component of SAWPA’s overall watershed management program, based upon the various groundwater management strategies of SAWPA’s individual member agencies. These member agency’s strategies are incorporated into a broader overall regional strategy, while keeping long-term regional goals in mind. This creates a plan, which addresses regional issues while detailed sufficiently to identify local issues within the watershed. A copy of the SAWPA Plan is included as Appendix “A”.

The San Bernardino Valley Municipal Water District has completed an overview of groundwater and surface water management for the San Bernardino area, and is included as Appendix “G” herein.

SECTION V

HISTORIC AND PROJECTED WATER SOURCE PRODUCTION AND WATER USAGE

5.01 General

Water for domestic and irrigation is produced from three basins: San Bernardino Basin, Rialto-Colton Basin and the Riverside Basin. The production of water for irrigation use is rapidly being reduced due to the removal of citrus groves for urban development. The irrigation demand is being converted to domestic production following periods of development.

5.02 Past Ten-Year Water Production

The past ten years (2000 through 2009) of water production for domestic use and irrigation use are shown in Table 5-1.

Table 5-1
Past Ten Years of Water Production
(All quantities shown in acre-feet)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Domestic	3,994	3,816	4,772	3,922	4,044	3,723	3,684	4,122	3,871	3,825
Irrigation	<u>1,176</u>	<u>839</u>	<u>1,022</u>	<u>708</u>	<u>501</u>	<u>692</u>	<u>163</u>	<u>96</u>	<u>64</u>	<u>91</u>
Total	5,170	4,655	5,794	4,630	4,454	4,415	3,847	4,218	3,935	3,916

The reduction of irrigation water may be seen in the above Table 5-1. When comparing this with the population projections in Section II, the housing developments designated for future construction will increase the domestic production. Irrigation demands are expected to increase when development returns to the Riverside County areas that the Company expects to serve.

5.03 Water Use

All water in the domestic water system is sold to customers through meters. In April 2010, a survey of the categories of customers was made and the following data obtained:

Table 5-2		
Number of Water Connections by Category and Size		
Type/Category of Customer	No. Metered Services	
	(2005)	(2010)
Residential	3,711	3,785
Commercial	82	75
Industrial	8	19
Agricultural (Agricultural and Residential)	18	36
Other Water Systems	0	0
TOTAL ACTIVE CONNECTIONS	3,819	3,915

Size	Number (2010)
¾"	3,687
1"	73
1-1/2"	114
2"	33
3"	5
4"	3
	3,915

5.04 Exchanges and Transfer of Water

The Company has "Emergency Inter-Ties" with the City of San Bernardino, City of Colton and the City of Rialto. In addition, the City of Riverside owns shares of stock in the Company and obtains their share of water by "In-Lieu-Pumping". The following Table 5-3 shows the quantity of water delivered to the agencies requesting water and the amounts pumped by the City of Riverside. The Company has the right to terminate this inter-tie service if they need the water and the Company can request water from the other agency if it is needed.

The City of San Bernardino has not requested any water and the inter-tie is in place if the City or the Company need water. The City of Colton has had to shut down some of its domestic water production wells since toxic substances are showing up in the wells in excess of State Standards. Water has not been delivered to the City of Colton since 2002. The City of Rialto has an inter-tie in-place since 2004 for the same reasons as the City of Colton. The City of Rialto has not ever taken water from the Company.

Table 5-3
Domestic Water Delivered to the City of Colton
 (Quantities Shown in Acre-Feet)

Year	Quantity
2005	0
2006	0
2007	0
2008	0
2009	0

Table 5-4
In-Lieu Pumping by the City of Riverside
 (Quantities Shown in Acre-Feet)

Year	Quantity
2005	440
2006	440
2007	440
2008	440
2009	440

Three wells, FW-2, FW-5 and FW-18 have been dedicated to pumping water from the Bunker Hill Basin (San Bernardino Basin) to lower the groundwater to a level where it will not flood the basements of commercial structures in the basin. This pumping is done in cooperation with the San Bernardino Valley Municipal Water District Groundwater Reduction Program. Water Pumped in this program is not assessed against the Company water rights in the San Bernardino basin.

Table 5-5
Groundwater Reduction Program Pumping
 (Quantities Shown in Acre-Feet)

Well	Quantity by Year				
	2005	2006	2007	2008	2009
FW-2	0.2	0.3	3.3	1.3	0.9
FW-5	0.2	0.2	2.0	0.0	0.0
FW-18	<u>0.9</u>	<u>0.2</u>	<u>0.2</u>	<u>0.9</u>	<u>0.4</u>
TOTAL	1.3	0.7	5.5	2.2	1.3

5.05 Imported Water

The Company has entered into an agreement with the San Bernardino Valley Municipal Water District (SBVMWD Legal Document 1487, approved January 18, 1990) for a maximum flow rate of 1,000 gallons per minute from the District's "Base Line Feeder" project. The maximum quantity the Company can receive in any calendar year is 1,000 acre-feet from this pipeline. Water obtained through this agreement will be assessed against the Company's water right in the San Bernardino Basin. This agreement was made with the understanding that it is a standby agreement and the water delivery is to be made only at the Company's request.

A copy of Legal Document No. 1487 is included as Appendix "B", herein.

EXHIBIT 5-1 **WATER WELL LOCATIONS**

5.06 Water Production by Groundwater Basin

The Company extracts water from three separate basins: The San Bernardino Basin, Colton Basin and the Riverside Basin. The San Bernardino Basin extractions are from two (2) sub-basins: the Lytle Creek Basin and the Bunker Hill Basin. The Riverside Basin is separated into two areas, based on drainage to the Santa Ana River. These separated basins are called the Riverside North Basin and the Riverside South Basins.

Table 5-6
Year 2009 Water Production By Well and Groundwater Basin

Well	<u>San Bernardino Basin</u>		Rialto-Colton	<u>Riverside Basin</u>	
	Lytle Creek	Bunker Hill		Riv. North	Riv. South
LC-1	0.0	-	-	-	-
LC-8	0.0	-	-	-	-
LC-10	1,207.9	-	-	-	-
FW-2	-	0.9	-	-	-
FW-5	-	0.4	-	-	-
FW-18	-	0.0	-	-	-
CR-4A	-	-	-	-	-
LV-3	-	-	-	37.2	-
RN-6	-	-	-	2074.8	-
RN-7	-	-	-	546.3	-
RN-17	-	-	-	47.7	-
RN-20	-	-	-	0.7	-
RN-21	-	-	-	-	0.0
RN-22	-	-	-	-	0.1
Total	1,207.9	1.3	-0-	2,706.7	0.1

Total water pumped during calendar year 2009 = 3,916 acre-feet.

When subtracting basin pump out water total to customers is 3,914.7 acre-feet.

The Company has 13 operating wells of which eight (8) extracts water for domestic water distribution. Two (2) wells are dedicated at this time for irrigation purposes. The irrigation wells have a nitrate concentration in excess of drinking water standards are pumped into an irrigation water system, which is separated from the domestic system. Three (3) wells are dedicated to basin pump-out to reduce the groundwater elevation to where water will not encroach into existing structures. Location of the wells are shown on Exhibit 5-1

5.07 Projected Water Requirements

During the past ten years (2000 through 2009) total annual water production has decreased steadily from 5,170 acre-feet in 2000 to 3,916 acre-feet in 2009. The domestic water production has remained steady while the irrigation extractions have declined. This can be seen in Table 5-1, Past Ten Years of Water Production. The decline in irrigation water production is caused by the reduction in irrigated acreage created by urbanization

in the agricultural areas within the Company. There are large acreages planned for future development where irrigation has stopped and domestic supply will begin. This is reflected in the population projections shown in Table 2-3, Population Projections.

Irrigation requirements will not disappear in the future. The Company has wells (No. RN-21 and RN-22) which do not meet the standards for drinking water due to high nitrates and are dedicated to producing irrigation water for parks, landscaped and open space. The Company also expects to meet much of its irrigation demand from wells in the Riverside South Basin for areas within its service area in Riverside County. It is estimated that approximately 2,000 acre-feet of this water will be extracted annually in the future for these purposes. The irrigation of water is planned primarily in areas where the geologic conditions are that the lands being irrigated are non-water bearing. In this manner the water being extracted will remove nitrates from the groundwater and placed in areas where they will not percolate back to the groundwater. It is planned that this extraction of the high nitrate water will help to return these wells back to drinking water standards.

Based on historic population estimates, water production, and anticipated water conservation, the current 10 year average (2000 to 2009) of 1.04 acre-foot of water per single family residence will be reduced to a projected 0.83 acre-feet per single family residence per year the future for domestic production.

Table 5-7
Projected Water Requirements For
Riverside Highland Water Company
 (Projected Water Production Shown in Acre-Feet)

Year	Population	Water Requirements		
		Domestic (1)	Irrigation	Total
2005	12,000	3,723	692	4,415
2009	12,000	3,825	90	3,916
2015	14,000	4,500	600	5,100
2020	17,000	4,945	1000	5,945
2025	20,000	5,210	2000	7,210
2030	22,900	5,950	2000	7,950

(1) Average daily water usage for domestic single family residence (SFR) was 1.01 af/yr, the per capita water use in 2009 was 291 gpd. Table 5-7 projections assumes that the average daily usage for SFR will decline to 0.9 af/yr (260 gpd/person) in 2015, 0.80 af/yr (231 gpd/person) in 2020, and 0.75 af/yr (216 gpd/person) in the year 2030.

5.08 Current Water Production Capabilities

The Company currently has thirteen (13) wells capable of producing water. Two of these wells, RN-21 and RN-22 are dedicated to provide irrigation water due to high nitrate concentrations. Three wells, FW-2, FW-5 and FW-18 are being used for the groundwater reduction program of the San Bernardino Valley Municipal Water

District. These three wells can be converted to domestic water production if required. To assess the water production capabilities for domestic water, all wells with the exception of the irrigation wells RN-21 and RN-22 will be considered.

The following Table 5-8 shows the water production capabilities at the end of the calendar year 2009 production period. The data is from recent Southern California Edison, Hydraulic Test Results on the well and pumping equipment:

Table 5-8
Pumping Capabilities of Riverside Highland Water Company
Operating Water Wells
(Water Production Shown in Gallons Per Minute)

Well	Use	Rate of Flow	Pump Efficiency	Potential AF/yr
LC-1	Dom	1,019	57.5%	660
LC-8	Dom	1,040	56.2%	660
LC-10	Dom	2,298	56.7%	1,520
FW-2	Dom	1,122	N/A	730
FW-5	Dom	2,381	61.6%	1,580
FW-18	Dom	1,270	N/A	860
CR-4A		Non-Operating	--	
LV-3	Dom	1,510	81.5%	990
RN-6	Dom	2,136	75.3%	1,390
RN-7	Dom	1,932	69.7%	1,250
RN-17	Dom	1,901	69.7%	1,250
RN-20	Dom	1,010	73.0%	660
RN-21	Irr	1,390	67.0%	920
RN-22	Irr	1,400	64.9%	<u>920</u>
Total				13,390

Potential AF/yr based on 300 d/yr and 12 hr/d operations

N/A-Represents not available

Dom- Represents domestic water production

Irr- Represents irrigation water production

Domestic water production from existing sources will provide 17,619 gallons per minute of production. Under current pumping policies for pumping 16 hours daily, a total of 17 million gallons of water per day can be produced.

Irrigation water production from existing sources will provide 2,790 gallons per minute of production. Under current pumping policies for pumping 18 hours daily, a total of 3 million gallons of water per day can be produced.

When considering the domestic water on a maximum day of the maximum month (2.0 times average daily usage) will require 470 gallons per day per person, the current

production capabilities would serve a population of 45,080 people. Because the domestic water distribution system is separated into pressure zones, this would require many transfers of water. To make the water system reliable, additional wells will be constructed to provide water production to proper locations and required redundancy within the domestic water system.

Wells presently considered for additions to the domestic water system are as follows:

Table 5-9
Proposed Well Additions to Domestic Water System

Well	Year of Installation
SMR	2013
FW-5 *	2016
CR	2020
FW-2 *	2025
FW-18 *	2026
Lytle Creek	2028

* Wells existing that will be converted to domestic use and are included in the current production capacity.

Each well is expected to have a production capacity of 1,500 to 2,500 gallons per minute. The actual number of wells to be added to the system can vary depending upon actual need. Since there is no restriction on constructing wells in the basins that the Company extracts water, the dates of installation are subject to change, again depending upon needs.

5.09 Alternate Water Supplies

Water supplies, in addition to the water sources of the Company, have been discussed earlier in this Plan. These sources include:

1. Base Line Feeder, San Bernardino Valley Municipal Water District; 1,000 gallons per minute or 1,000 acre-feet of water annually.
2. Emergency Inter-Ties: City of San Bernardino, 1,000 gpm; City of Rialto, 1,000 gpm and the City of Colton, 1,000 gpm. To date, Riverside Highland Water Company has not received any water from these inter-ties but has delivered water to the City of Colton.

In addition to the alternative sources in-place at the current time, sources of water, other than additional wells extracting natural in-flow to the water basins include:

- State Project water from the San Bernardino Valley Municipal Water District when water treatment facilities and pipelines are in-place.

- Extraction of State Project Water, which has been percolated into the basin by the San Bernardino Valley Municipal Water District.
- Extractions of Santa Ana River Water which has been percolated into the water basins through the Seven Oaks Accord, if the water rights are proved by the State Department of Water Resources.
- Connection to the Western Municipal Water District “Riverside-Corona Feeder” pipeline project when the pipeline is constructed.

5.10 Recycled Water

The Company does not have a wastewater treatment plant and the two (2) wastewater treatment plants in the immediate area, the City of Colton and City of San Bernardino, conduct secondary treated wastewater to a RIX plant where the wastewater is further treated and discharged into the Santa Ana River downstream from the service area of the Water Company. The treated wastewater is discharged in a section of the Santa Ana River which will allow the higher TDS content of the to be delivered. The San Bernardino Valley Water District and the City of San Bernardino are expected to further treat the wastewater and reclaim the RIX plant flows. The joint project is expected to transport the reclaim wastewater to the Bunker Hill Basin for ground water recharge. The Company may elect to participate in this project to utilize the reclaim wastewater for future irrigation demands. Future projections do not include recycled water at this time.

The Company is currently practicing groundwater conservation by extracting water not suitable for domestic purposes (Wells RN-21 and RN-22, high in nitrates) and serving this water to irrigation water customers in-lieu of using domestic water. By removing this tainted water from the basin it is anticipated that the extraction of this water will reduce the level of nitrates in this area of the basin so future use of this water will be conducive to domestic water use.

The Company expects to utilize the Riverside South Basin for non-potable irrigation supply to satisfy irrigation demands within its service area in Riverside County.

5.11 Reduction of Water Losses as a Source of Water

The Company has developed a substantial amount of water through its Capital Replacement Program from 1985 through the present. The water gained by reducing the Unaccounted-For-Water in the domestic water system is shown in Section VI, herein. There were also large losses in the irrigation water system due to leaks and other factors and the irrigation system has been largely abandoned because of urbanization of the agricultural lands. The remaining and new irrigation systems have been replaced with new piping and pumping systems are in-place and significant savings in irrigation water will be realized in the future.

The following Table 5-10, “Domestic and Irrigation Water Production, 1985 through 2009 and Number of Services,” shows the decline in water production and increase in water services.

Table 5-10
Domestic and Irrigation Water Production and Number of Service Connections
1985 through 2009

Year	Water Production in AF/yr			Connections	Average Usage Per Dom. Conn
	Domestic	Irrigation	Total		
1985	4,527	6,721	11,249	3,128	1.45
1986	3,898	5,671	9,569	3,197	1.22
1987	3,238	4,598	7,836	3,242	1.00
1988	3,272	4,774	8,046	3,462	0.95
1989	4,026	4,800	8,826	3,631	1.11
1990	4,197	4,476	8,673	3,722	1.13
1991	3,851	4,366	8,217	3,734	1.03
1992	3,457	3,824	7,271	3,749	0.92
1993	3,558	4,127	7,685	3,750	0.95
1994	3,702	4,503	8,205	3,761	0.98
1995	3,629	4,073	7,702	3,763	0.96
1996	3,844	4,161	8,005	3,700	1.03
1997	3,721	4,183	7,904	3,734	1.00
1998	3,269	2,502	5,771	3,735	0.86
1999	3,921	2,120	6,041	3,736	0.95
2000	3,994	1,176	5,170	3,748	1.07
2001	3,816	839	4,655	3,780	1.01
2002	4,772	1,022	5,793	3,780	1.26
2003	3,922	708	4,630	3,782	1.04
2004	4,044	501	4,545	3,817	1.06
2005	3,723	692	4,415	3,835	0.97
2006	3,684	163	3,847	3,885	0.95
2007	4,122	96	4,218	3,923	1.05
2008	3,871	64	3,935	3,924	0.99
2009	3,825	91	3,916	3,927	0.97

In 1985, the Unaccounted-For-Water in the irrigation system was 45.1%. The reduction in Unaccounted-For-Water reduced at a slower rate since the reduction of agricultural lands was anticipated through attrition and conversion to urban development. The reduction of losses in the irrigation system has proved to be a source of water, same as the domestic water system. Careful planning and forward thinking by the Company has proven to be a valuable asset in the future of the Water Company.

The 10-year average consumption per connection per year from 2000 to 2009 was 1.04 af. The 10 year period from 2000 to 2009 will be utilized as the time period for the Base Water Use Calculations.

SECTION VI WATER RIGHTS

6.01 General

The Groundwater Basins that the Company extracts water have been adjudicated most recently by the “Orange County Water District vs. City of Chino et al. Case Number 117628, County of Orange and the Western Municipal Water District et al. vs. East San Bernardino Valley County Water District et al., Case Number 78426, County of Riverside. See Appendix G for an explanation of water rights for the San Bernardino area.

SECTION VII CONSERVATION AND EDUCATION

7.01 General

The Company has been an advocate of water conservation for many years. In 1985, the Company commissioned a “Revenue Requirement Study” which would include a review of water system operations and a program for water system improvements. This report found: In 1985, the Company pumped 4,527 acre-feet of water for domestic distribution. Of this production, 2,758 acre-feet were recorded as being received at the customer water meter, resulting in unaccounted-for-water loss of 39.1%. This loss was suspected as losses due to leakage in the water distribution system, un-metered water by construction and other factors. A leak map was prepared at the Company and each reported leak was indicated on the map. From this map, a “Capital Replacement Program” was prepared and approved by the Board of Directors. The map provided input to where the greatest leakage areas were given a high priority and construction proceeded. The current results of the program is that the Company had a decrease in pumping to 3,827 acre-feet in 2009 while increasing deliveries to customers to 3,659 acre-feet resulting in unaccounted for water of 4.4% of pumping.

Other conservation programs initiated by the Company over the past and continuing today will be discussed herein. The time period from 2000 to 2009 will be utilized for the Base Water Use Calculations for this report. The average water use per domestic connection per year for the Base Water Use was 1.04 af/yr. A 20% reduction would require this average to be reduced to 0.84 af/yr per domestic connection.

The Company has implemented the following water demand management programs:

1. Capital replacement program to reduce unaccounted for water
2. Water service leak detection program
3. In-home water usage audit program
4. Supervisory control and data acquisition system program (SCADA)
5. Water system leak detection program
6. Water conservation training program in schools
7. Water conservation training programs community wide
8. Water conservation literature distribution program
9. Tiered water rates as a form of conservation

7.02 Water Demand Management Measures (DMM)

The new guidelines for UWMPs require that the following 14 DMMs be included in the 2010 UWMP:

- (A) Water survey programs for single family and multi family residential customers
- (B) Residential plumbing retrofit
- (C) System water audits, leak detection, and repair
- (D) Metering with commodity rates for all new connections and retrofit of existing connections
- (E) Large landscape conservation programs and incentives

- (F) High efficiency washing machines rebate programs
- (G) Public information programs
- (H) School education programs
- (I) Conservation programs for commercial, industrial, and institutional accounts
- (J) Wholesales agency programs
- (K) Conservation pricing
- (L) Water conservation coordinator
- (M) Water waste prohibition
- (N) Residential ultra-low flush toilet replacement programs

A. Water survey programs for residential customers

In 1989, the Company initiated an “In-Home Water Audit Program” to review customers in-house and outdoor uses and habits. The audit is performed at the request of the Customer or, it may be recommended by employees reviewing historic water usage against a high usage meter reading in any particular period of time. Upon completion of the water usage audit, recommendations are made to the homeowner to reduce water usage. Company personnel will follow up with the customer to review the recommendations made as a result of the audit.

No record of water saved through this program has been maintained. It is believed that a significant reduction of water usage has been realized after an audit has been made and the employee recommendations have been implemented for individual customers.

B. Residential Plumbing Retrofit

The Company does not have a residential plumbing retrofit program and does not intend to initial this program at this time.

C. System water audits, leak detection, and repair

The Company is currently in the third year of a five year plan to replace all of the water meters with automated meters to help detect both meter leaks and leaks within the customers property. During the regular reading duties, the meter and joining pipelines are reviewed for water leakage. Where water is noted in the reading of the meter, a service technician is dispatched to the location of the possible leak to evaluate the situation. Any leaks found, whatever the size, are repaired immediately. It has been the experience of the Company that approximately 5.5 % of the meters in the distribution system have small leaks in any one year. The automated water meters will enable the Company to detect leaks within the customers system. The Company plans to initiate this customer leak detection program when the automated meter program is completed.

Meters that are noticeably not providing proper readings during the reading period and in the calculations for water used as compared to historic usage by water billing personnel will be evaluated and replaced or repaired as the situation requires. The Company “Water Meter Change-Out Program” commenced in 1981 and is continuing today. The Company plans to replace all of its water meters with new automated

water meters. The “Meter Change-Out Program” will continue as an on-going program to ensure proper reading meters are being utilized within the distribution system.

The Company has had an ongoing leak detection system that has been in place since 1989. The Company has not keep an account of how much water this program has conserved.

The Company has a Capital Replacement Program that includes the replacement of water mains, valves, fittings and water service connections from the water main to the customer meter. Please note that all water sold is through meters regularly checked for accuracy. The results of the program from years 1985 through 2004 are shown in the following Table 7-1.

Table 7-1
Domestic Water System Unaccounted-For-Water
(All quantities shown in acre-feet)

Year	1985	1986	1987	1988	1989	1990	1991	1992	
Production	4,527	3,898	3,238	3,272	4,026	4,197	3,851	3,457	
Metered	2,758	2,862	3,272	2,796	3,243	3,340	3,096	3,124	
Difference	1,769	1,036	473	476	783	857	755	333	
% Loss	39.1	26.6	14.6	19.4	20.4	19.6	9.6	7.8	
Year	1993	1994	1995	1996	1997	1998	1999	2000	
Production	3,558	3,702	3,629	3,844	3,721	3,269	3,921	3,994	
Metered	3,280	3,348	3,387	3,602	3,522	3,112	3,719	3,858	
Difference	278	354	242	242	199	157	202	137	
% Loss	7.8	9.8	6.7	6.3	5.3	4.8	5.2	3.4	
Year	2001	2002	2003	2004	2005	2006	2007	2008	2009
Production	3,816	4,772	3,922	4,044	3,723	3,680	4,094	3,848	3,827
Metered	3,626	4,588	3,804	3,885	3,553	3,636	4,014	3,830	3,659
Difference	190	184	118	159	170	44	86	18	168
% Loss	5.0	3.8	3.0	3.9	4.6	1.2	2.1	0.5	4.4

The goal of the Company is to continue the “Capital Replacement Program” to maintain the low unaccounted-for-water it has achieved under the program. A brief outline of the proposed Program for the years 2010 through 2024 is shown below in Table 7-2:

Table 7-2
Capital Improvement Plan
2010 Through 2024

- 2010:**
Michigan Street from Van Buren to Pico, mains and services
Replace 400 Automated Meters
Replace Water Well RN# 7 Pump
- 2011:**
Purchase material for Michigan Street from Pico Street to Main Street
Install 400 Automated Water Meters
Upgrade SCADA Panels
Replace Water Well LV#3 Pump
- 2012:**
Fairburn from Kingston to Miriam Way, mains and services
Michigan Street from Pico to Main Street, mains and services
Install 600 Automated Water Meters
- 2013:**
Drill Riverside North Water Well
Loop West Side from Barton Road to Palm and Rosedale
DeSoto from Dos Rios to mid-block, mains and services
Install 600 Automated Water Meters
- 2014:**
Raven Way, Mt. Vernon Avenue to Oriole, mains and Services
La Paix from Dos Rios to mid-block, mains and services
Complete and equip Riverside North Water Well
Install 200 Automated Water Meters
- 2015:**
24" Lytle Creek line – Santa Ana River crossing
Pico Street from Michigan to end, mains and services
- 2016:**
Observation Drive from Van Buren to Palm – Hydraulic
balance Zone II Van Buren Reservoir and Miller Reservoir
Reed Avenue from Van Buren Street to SCE easement, Lark and Kentfield cul-
de-sacs, mains and services
Upgrade Water Well FW#5 for domestic purposes
- 2017:**
Palm Avenue from fire hydrant to driveway @ Miller
Reservoir, mains and services
Westwood Street from 23224 to end, Westwood Lane and
Mason Street, mains and services
Warbler Street and Robin Way from Raven Way to Oriole
Avenue, mains and services
- 2018:**
Fremontia Street, Napa Court and Reed Street from Pico to
Main Street, mains and services

- LaCrosse Avenue – Barton Road to South Terminus, mains and services
- 2019:**
Nandina Street, Canary Court, Merle Court, Paradise Street,
Sisken Court and Peacock Street from Preston to Palm Avenue,
mains and services
Reed Street, DeSoto Street, Pascal Street and La Paix Street
from DeBerry to Stonewood, mains and services
- 2020:**
Drill well in Colton/Rialto Basin
Franklin Street, Oriole to Franklin Way including Condor Ct and
Eagle Ct., mains and services
- 2021:**
Complete and equip well in Colton/Rialto Basin
Raven Way, Mt. Vernon to Oriole, mains and services
- 2022:**
Garden Avenue @ Pico Street both cul-de-sacs, mains and services
Sanburg Way @ Pico Street both cul-de-sacs, mains and
services
- 2023:**
Dickens Avenue from Pico to end of cul-de-sac, mains and services
Royal Avenue and Tanager Street between Pico and Michigan
Street, mains and services —
- 2024:**
Pascal Avenue, Lark Street, Kentfield Street, and Vivienda
Avenue from Van Buren south, mains and services

D. Metering with commodity rates for all connections

As stated in (C) the Company is in the third year of a five year water meter replacement program to install automated water meters for all customers.

E. Large landscape conservation programs and incentives

The Company has very few large landscape irrigation areas within its service area. The Company plans, in the future, to offer non-potable irrigation water to these customers. The Company does not have a landscape conservation program or incentives, and does not plan to implement this type of program in the near future.

F. High efficiency washing machine rebate program

The Company does not have a high efficiency washing machine rebate program and does not intend to initiate such a program.

G. Public information programs

Annually, the City of Grand Terrace which the Company provides water service becomes involved with Water Awareness Month, including passing a Water Conservation Resolution and prominently displaying the winning poster from the schools during Water Awareness Month poster contest.

In the past, the Company has sponsored and manned a booth at the City of Grand Terrace “Annual Merchants Fair”. At this booth, water conservation literature is available to participants and the personnel will answer questions and discuss water matters with the people who are normally customers of the Company. The Company also has a water conservation booth annually at both the Grand Terrace Days and Highgrove Days.

The Company maintains a literature rack in the lobby of the Corporate Offices. There are booklets and literature available at the booths sponsored by the Company. An example of the literature available follows:

- Water Conservation Hints: This is a pamphlet prepared by the Company as a handout to new customers or interested people.
- Take A Day Off: A booklet distributed by the Metropolitan water District of Southern California, showing climate zones and the amount of water needed for different types of grass. This pamphlet is produced from a study conducted by The University of California, Riverside and funded by Los Angeles Department of Water And Power, Municipal Water District of Orange County, San Diego County Water Authority and Metropolitan Water District of Southern California.
- The Easy Guide To Lawn Watering: This pamphlet produced by faculty of the University of California, Riverside and the University of California Cooperative Extension Horticultural Advisor, San Bernardino County and Distributed by San Bernardino Valley Municipal Water District and Cooperative Extension, University of California, San Bernardino, details the methods in which a homeowner can determine the amount of water actually being applied to a lawn and the time in minutes a lawn should be watered for a type of grass. There is a series of suggestions to conserve water in home lawns.

H. School Education programs

In 1991, in conjunction with the Colton Unified School District’s “Partners in Education Adopt-A-School Program” the Company adopted Terrace View Elementary School in the City of Grand Terrace. The Company provides water service to the City of Grand Terrace. Staff of the Company provides instruction about water resources, how water gets to the tap in your home, water conservation and the water business operations.

This “Adopt-A-School Program”, now in its nineteenth year, utilizes classroom work by the teacher and the Company employees, supervised tours to the Western Municipal Water District of Riverside County’s “Low Water Use Demonstration Garden”, the Metropolitan Water District of Southern California’s Mills Water Treatment Plant, Oliver Roemer Water Filtration Plant, a water testing laboratory, an EPA Superfund Site, riding with meter reading personnel and the corporate facilities and operation facilities of the Company.

On May 30, 2002, the Company adopted a second school, Grand Terrace Elementary School, in the “Partners in Education, Adopt-A-School Program”.

Each year, the Company sponsors a “Water Awareness Poster” contest, which includes both schools during Water Awareness Month. Awards, which are engraved plaques are awarded to two winners in each school grade level. Personnel from the Company are requested to judge the Annual Science Fair, both at the local school and district wide level. The Grand Prize Winner in the Poster Contest for each school is presented with a \$100.00 U.S. Savings Bond sponsored by the Company.

I. Conservation programs for commercial, industrial, and institutional accounts

The Company has no large commercial, industrial, or institutional accounts

J. Wholesale agency programs

The Company has not purchased any water supplies from any wholesales agency. It has a connection to SBVMWD’s baseline feeder and can take wholesale supply in an emergency.

K. Conservation Pricing

In 1985, the Company commissioned a “Revenue Requirement Study” to determine the revenue required for each class of service to pay its fair share of monies to operate and maintain the domestic and irrigation water systems. During the study it was noted that a waste of water was occurring by some customers and some irrigation customers were not metered.

The rate structure at the time was for assessments to pay for water usage and a declining rate for water in excess of that amount represented by the assessment. In 1986, the Board of Directors of the Company accepted the Revenue Requirement Study and began to implement the new rate structure. Prior to beginning the new water rates, the Staff of the Company began a public information and education series of talks to the City of Grand Terrace, its largest customer base, service clubs and information centers at community gatherings. When the rates were implemented, public acceptance was overwhelming.

The Company completed an additional rate study (2010) to further reduce water consumption and match fixed revenue sources to fixed revenue expenditure, along with matching variable revenue sources to variable revenue expenditure.

Table 7-3
2010 Domestic Water Rate Schedule

Units per 2 months	Rate per Unit (\$)
0 to 78	0.64
78 to 140	0.84
140 to 200	0.99
Over 200	1.14

The water rate structure is designed as an increasing charge for water as usage increases. It was determined that 20 units (100 cubic feet = 1 unit) of water per month was the lifeline amount being used by customers for inside water use. Water meter readings are done bi-monthly and the rate structure as of January 01, 2011 is shown.

Table 7-4
2011 Domestic Water Rate Schedule

Units per 2 months	Rate per Unit (\$)			
Year	2011	2012	2013	2014
0 to 50 units	0.68	0.72	0.76	0.81
51 to 90 units	0.89	0.94	1.00	1.06
91 to 140 units	1.05	1.11	1.18	1.25
Over 141 units	1.21	1.28	1.36	1.44

The commodity rates are scheduled to increase each year from 2011 to 2014 with Tiers 3 and 4 having the largest increases. If the 20% per capital reduction is not met by the year 2014, the commodity rate increases for Tiers 3 and 4 will continue. All of the Tier rates will increase to match inflation. This rate structure, along with the other programs of the Company, is planned to greatly reduce the water running down gutters and other water wasting habits. With agriculture being phased out, irrigation will be for landscaping and open space purposes. Irrigation water will be charged at a rate per unit.

The Company will increase its education literature for water conservation to better inform its customers on how to irrigate landscape. Education literature will include such recommendations as water only during the early mornings or evenings, don't water when it is windy, don't water during cloudy days or rain days; irrigation of turf should be three days per week for 7 to 10 minutes; irrigate trees once per 3 to 4 weeks; irrigation of shrubs should be once per week; etc.

L. Water conservation coordinator

The Company had been experiencing reservoir overflows, water mixing problems in reservoirs and the need for excessive water flushing due to low water in reservoir problems. In response to these problems, the water Company installed a "State-Of-The-Art" Supervisory Control and Data Acquisition System (SCADA) in the water distribution system. Since the installation of the SCADA system, proper water levels in the reservoirs are maintained, and the use of "Time-of-Use" (TOU) electrical energy usage has been practicable, reducing energy bills to the Company. The proper use of booster stations and the ability to utilize the most efficient and lowest cost water producing wells can be determined and operated by the Company. In addition, records of operation are stored within the computer files for future reference to evaluate water distribution system. The Company distribution superintendent will be the water conservation coordinator.

M. Water waste prohibition

The Company does not currently have a water waste prohibition. The Company's aggressive water commodity tiered rate structure is devised to discourage water wasting. Large water users will be identified and an aggressive education program for water conservation is planned to prevent water waste.

N. Residential ultra-low-flush toilet replacement program

The Company does not have an ultra-low-flush toilet replacement program at this time. If all current water conservation programs do not meet the required 20% reduction in water use, the Company will consider implementing a residential ultra-low-flush toilet replacement program.

7.03 Other Forms of Conservation

The Company does not currently have programs involving residential retrofits, large landscaping conservation programs and incentives, conservation programs for commercial, industrial, and institutional accounts, wholesale agency programs, water waste prohibition, or residential ultra-low flush toilet replacement programs. If the Company's aggressive water commodity pricing rate schedule and its education programs do not meet the required 20% per capita reduction, the Company will initiate the above mentioned water conservation programs.

7.04 Evaluation of Conservation Measures

The Company is initiating a very aggressive commodity rate pricing schedule for its tiered rate structure in its upper tiers. The amount allotted for each tier will be significantly reduced and the pricing rate per unit of consumption for tiers 3 and 4 will significantly increase in comparison for tiers 1 and 2. RHCW is also increasing its fixed revenues (bi-monthly meter charges and annual water share assessments) to match its fixed expenditures. Dramatic customer water conservation or reduced water usage due to weather will not adversely affect the Company's financial balance sheet.

The Company will aggressively implement its water conservation literature described in Section 7.02, H., to assist its customer in reducing their outside water usage (landscape irrigation).

SECTION VIII

RELIABILITY OF WATER SUPPLIES

8.01 General

The Company and the region are facing increasing challenges and opportunities in its role as stewards of water resources in the region. Each basin that the Company acquires water from has unique challenges. See Appendix G for an evaluation of the reliability of each water supply source.

8.02 Water Reliability Comparison

The water production in the year 2009 was 3,916 acre-feet of water. The water pumped in the San Bernardino Valley Municipal Water District “High Groundwater Remediation Project” was 1.2 acre. The Company projects that through education programs and a more aggressive tiered rate schedule, the average water usage per person will be lowered from the current 240 gpd/person to a more reasonable 200 gpd/person or less. The estimated additional water usage by two major developments presently under construction, Specific Plans No. 323 and 330 will add an additional 1,300 acre feet of demand and by the year 2025, other development will create a demand of 1,200 acre-feet on undeveloped areas resulting in a demand of 5,760 acre-feet of water. This population and water demand in the year 2025 is very near build-out of the current service area of the Company. There is projected to be approximately 1000 af/yr irrigation demand in the year 2025.

Table 9-1 shows the water demand for the service area for an average or “normal” water year, a single dry year and multiple dry years. The Company has experienced “drier than normal” dry years during the years 2000 through 2004 and we have included these years in the average per-capita water use in the calculations. The Company expects the water usage to reduce with a series of “wet years,” however, reduction is not shown since it has not been confirmed at this time. The Metropolitan Water District of Southern California data shows that the San Bernardino-Riverside area, being a semi-arid region, that during periods of dry weather, will demand approximately eight percent more urban water use than a “normal” weather year.

SECTION IX WATER SHORTAGE PLANS

9.01 General

The Company has not implemented a “Water Shortage Plan,” but, has put into place, programs whereby actions will go into effect if a catastrophic interruption, mandatory prohibition or other causes occur. In 1987, the Company started and maintained various funds whereby the Company can respond to emergencies without waiting for funds from outside sources. The Company has approved a living document known as the “Emergency Preparedness and Response Procedure” in March 1994 and most recently revised the document in April 2010.

9.02 Emergency Preparedness and Response Procedure

In March 1994, the Company prepared the living document entitled “Emergency Preparedness and Response Procedures” to clearly define the responsibility and procedure to respond to water shortages, pipeline breaks well and pumping plant problems. Potential vulnerable locations in the water system are located and inspection and repairs are noted. In addition, outside sources of contactors and materials are identified along with multiple people to contact at any time with telephone, cell phone, pagers and addresses to contact these people. These firms have been contacted and agreed to respond immediately to emergencies at any time, day or night, weekdays or weekends. This document is revised regularly, latest revision April 2010, and the Company personnel kept abreast of any changes and each person’s responsibility.

A copy of the “Emergency Preparedness and Response Procedure” is included as Appendix “F” herein.

9.03 Water Conservation as a Reliable Water Source

The Company has been active in educating the public in water conservation. In 1991, in conjunction with the Colton Unified School District’s Partners in Education “Adopt a School Program”, the Company adopted the Terrace View Elementary School in Grand Terrace. On May 30, 2002, a second school, Grand Terrace Elementary School was adopted under the “Adopt a School Program. The Company offers such activities to the students as tours of the EPA Superfund Site in the City of San Bernardino, a water quality-testing laboratory and water treatment facilities. Students observe meter reading by riding with meter readers during this period and the students then observe billings to the customers, using the meter readings they had seen. A lesson on how the Water Company started in 1898 and progressed to where it is today. Also, students tour the Oliver Roemer Water Filtration Facility at West Valley Water District.

Water conservation ideas are given to the students in the hope it will carry on into the home and into the future of their life, as they become responsible adults.

Each year, the City of Grand Terrace, the major domestic water service area, becomes involved with “Water Awareness Month” to include a Water Conservation Resolution and displaying winning posters from the Water Awareness Poster Contest at the schools.

The Company has also participated in the Grand Terrace and Highgrove Days by setting up a booth to distribute conservation literature, discuss water issues and answer questioned regarding water issues.

In 1989, the Company initiated the “In-Home-Water Audit Program” to review a customer’s in-home and landscape water use and habits. The audit is performed at either the request of the customer or may be suggested by office personnel if a higher than normal water usage during a billing period has been verified. Once an audit has been performed, the Company will follow up and check the results of suggestions and recommendations.

In 1989, the Company prepared a “Water Conservation Hints” booklet to hand it out to new customers or any other interested party. The contents of this booklet are valid today and the booklet continues to be handed out.

9.04 Automated Water Meter Replacement Program

The Company is in the third year of a five year program to replace all of the hand read water meters with new automated water meters. All new developments are also required to install automated water meters. These automated water meters give the meter reader instant information on flows for leaks detection or unusual water usage by individual connections.

9.05 Unaccounted-For-Water

In 1985, the Company domestic water system had an unaccounted-for-water loss of 39.1 % of the water production. The irrigation system water loss due to unaccounted-for-water was 45.1 % of water production. The primary source of water loss was from leakage in pipelines, water services including meters, inaccuracy in water meter readings, construction water sales policy and reservoir overflow. A comprehensive plan was prepared to reduce the amount of water loss was prepared which included a plan for replacing old and leaking pipelines and services, repair or replace faulty and inaccurate water meters and meter irrigation customers and construction water users. A supervisory control and data acquisition system (SCADA) was installed to remotely monitor the operation of pumps and reservoirs and automatically notify the Company personnel 24-hours per day, seven days a week of any malfunctions or unauthorized entry into any facility.

These programs, which are in operation today, have reduced the unaccounted-for-water to 4.4 %. This savings of lost water can be realized as a new water source to accommodate the growth within the Company water system.

9.06 Water System Interconnections

The Company has interconnections with four (4) different agencies for water during emergencies. These Connections are with the San Bernardino Valley Municipal Water District for 1,000 gallons per minute from the “Base Line Feeder Project”, the City of San Bernardino at two (2) locations for 1,000 gallons per minute each, the City of Colton in two (2) locations for a total of 1,000 gallons per minute and the City of Rialto for

1,000 gallons per minute. The Company is working with the Western Municipal Water District of Riverside County for two (2) connections to the Riverside-Corona Feeder when it is constructed. At this time, the actual rate of flow has not been determined but will be a minimum of 1,000 gallons per minute at each connection. The Company is also working with the City of Riverside on construction of a new water system interconnection.

To date, the Company has not had to request water through these connections but has delivered water to the City of Colton. If all existing interconnections are delivering water, this would represent 7.2 million gallons per day, and when the Western Municipal connections are completed, a total of 10.08 million gallons per day is possible.

9.07 Water Reliability Comparisons

TABLE 9-1

**RIVERSIDE HIGHLAND WATER COMPANY
WATER DEMAND-WATER SUPPLY RELIABILITY**

(All quantities shown in acre-feet for the year 2035)

Source Water Supply	Average-Normal Water Year	Single Dry Year	Multiple Dry Years		
			Year 1	Year 2	Year 3
Domestic Groundwater	5,950	6,500	6,500	6,300	6,300
Irrigation Groundwater	2,000	2,000	2,000	2,000	2,000
TOTAL SUPPLY	8,825	8,825	8,825	8,825	8,825
TOTAL DEMAND	7,950	8,500	8,500	8,500	8,500
Surplus Supply	875	325	325	325	325

Total demand single and multiple dry years = a multiplier of 1.08

Supply represents pumping capability w/o redundancy and rights to water in the basins of use.

The Company, San Bernardino Valley Municipal Water District and Western Municipal Water District have demonstrated by aforementioned studies that water supplies will meet the water demands in normal, single dry and multiple dry years. The Company has the right to extract five percent (5%) of water in the San Bernardino Basin with a five-year average representing their water right. There is no restriction on water extraction from the Colton, Riverside South and Riverside North Basin, which will be used during multiple dry years. The Metropolitan Water District of Southern California increase in

water demand during dry years is expected to decrease since a period of dry years was used in the determination of average per capita water use.

The Company will have adequate water source extraction wells in service prior to the population increase to supply the areas. Current water production and storage facilities are in place to furnish the required water production. The current facilities would require very inefficient use for the higher production at times and with the conversion and construction of new water extraction wells, the system will be reliable with proper redundancy and high efficiency.

9.08 Customer Notification

During periods of emergency, the Company has in place, the ability to send notices to customers for the need to reduce water usage until the emergency is over. The Company does not have any police powers, being a private water company, but has the ability to notify customers and present fact in the local media regarding the situation. In the past, notifications have been made in areas of pipeline outages, pumping problems and the like and the customer response was positive because of the educational literature provided, school participation and media articles regarding the water company. The City of Grand Terrace has proved to be a reliable source of education, participating in many of the Company programs.

9.09 Water Supply Shortages

If the Company were to experience a 50% loss of water supply, it would still have sufficient water supply to serve its existing customers. The Company's current peak day demand is approximately 7 million gallons per day (mgd), and the Company's existing wells can pump 17 mgd, so a 50% loss of supply would be 8.5 mgd which is more than sufficient to meet current peak day demands. The Company's current yearly water supply demand is less than 4,000 af/yr and The Company's existing wells can produce more than 13,000 af/yr assuming a 12 hour pumping day and 300 days per year. A 50% loss would mean that there would be 6,500 af/yr available which is more than 167% of the current yearly demand.

9.10 Revenue and Expenditure Measures for Water Shortages

The Company is aggressively modifying its rate structure to allow fixed revenues (monthly meter charges and stock assessments) to meet fixed expenditures and variable revenues (water commodity sales to meet variable expenses). These rate structure modifications will negate adverse affects of reduced water sales during severe drought periods.

SECTION X CONCLUSIONS

10.01 General

The Company optimizes its water supply through an integrated resource approach, utilizing available programs and projects. The Company receives its' water from groundwater; however, non-potable water is used in place of potable water whenever the possibility arises, conserving potable water. Complexities and continuing refinement in groundwater management and rights and challenges of imported water reliability make analysis of water demand and supply complicated. This water supply analysis is considered at a point in time when known future projects in concept are yet to be designed. Therefore, water supply assessment and planning should be a part of the on-going efforts of the Company to optimize its water resource program

This Urban Water Management Plan identifies a water supply now and into the future, including a sufficient water supply for urban development as shown in the growth until the year 2030.

10.02 Water Demand

The Company's current average water demand over the past five (5) years has averaged 3,870 acre-feet per year. At build-out in 2030, an additional demand of 4,080 acre-feet of water is estimated increasing the total demand to 7,950 are-feet of water. This increase in water demand includes the conversion of irrigation of lands being converted to urban uses and reduction for water usage for domestic use.

10.03 Water Supply and Demand Projections

Analysis of water demand and supply projections for the Company, including expected growth, demonstrate that projected water supplies exceed demand through the year 2035. These projections consider land use, water development, approved projects, conversion projects and water conservation.

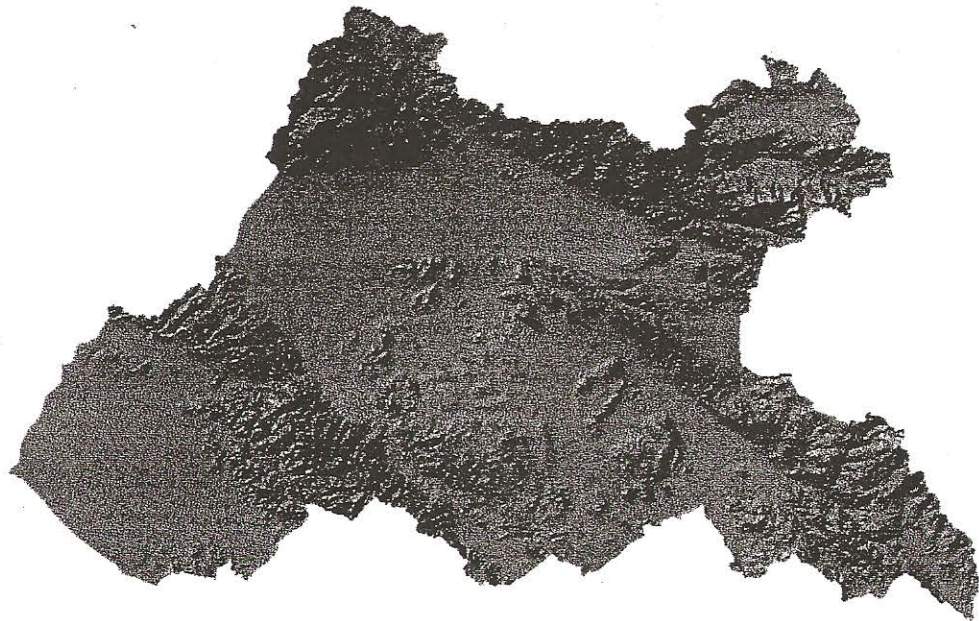
The Company has additional opportunities to increase the water supply to meet demands through the following measures: (1) utilize imported State Project Water or Seven Oaks Dam water from the San Bernardino Valley Municipal Water District and Western Municipal Water District of Riverside County; and, (2) developing a recycled water supply for non-potable water uses if the recycled water is made available. This could be done by purchasing recycled water from one of the several wastewater treatment plants in the vicinity that are now sending treated effluent downstream outside theirs or the Company service area. Collectively, these additional options will enable the Company to increase the water supply to exceed demand now and into the future.

APPENDIX

APPENDIX "A"

2005 REGIONAL GROUNDWATER MANAGEMENT PLAN

**Santa Ana Watershed Project Authority
Riverside, California
May 2005**



Santa Ana Watershed
Project Authority
11615 Sterling Avenue
Riverside, CA 92503
(909) 354-4224
www.sawpa.org

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Authority

AB 3030, the Groundwater Management Act, authored by Assemblyman Jim Costa, became law on January 1, 1993, and was codified as Part 2.75, commencing with Section 10750 of Division 6 of the Water Code. AB 3030 permits local agencies to adopt programs to manage groundwater.

AB 3030 allows any local public agency which provides water service to all or a portion of its service area and whose service area includes all or a portion of a groundwater basin to adopt a groundwater management program. The law contains multiple components, listed in Appendix A, which may be included in a groundwater management plan. Each component may play some role in evaluating or operating a groundwater basin so that groundwater can be managed to maximize the total water supply while protecting groundwater quality.

SAWPA's Involvement in Regional Groundwater Management

The Santa Ana River Watershed is located in southern California, south and east of the city of Los Angeles. The watershed includes much of Orange County, as well as, the northwestern corner of Riverside County, the southwestern corner of San Bernardino County, and a small portion of Los Angeles County. The watershed is bounded on the south by the Santa Margarita watershed, on the east by the Salton Sea and Southern Mojave watersheds, and on the north/west by the Mojave and San Gabriel watersheds. The watershed is approximately 2,800 square miles in area and includes approximately 40 groundwater basins.

The Santa Ana Watershed Project Authority, or SAWPA is a Joint Powers Authority, focusing on water supply and water quality issues in the Santa Ana River Watershed. First formed in 1968 as a planning agency, SAWPA was reformed in 1972 with a mission to plan and build facilities to protect the water quality of the Santa Ana River Watershed. The agreements formalizing the current agency were signed in 1974 and went into effect in 1975.

SAWPA carries out functions useful to the watershed and its five member agencies: Eastern Municipal Water District (EMWD), Inland Empire Utilities Agency (IEUA), Orange County Water District (OCWD), San Bernardino Valley Municipal Water District (SBVMWD), and Western Municipal Water District (WMWD). The jurisdiction of SAWPA and its member agencies spans approximately 2,650 square miles of the Santa Ana Watershed encompassing much of Orange County, a sliver of Los Angeles County, and the major population centers of western Riverside and southwestern San Bernardino Counties. Each of these agencies plans and executes long-term plans and management programs of their own, but it is primarily SAWPA that provides the vehicle to provide effective and concerted planning efforts on a regional basis.

SAWPA's stated mission is to develop and maintain regional plans, programs and projects that will protect the Santa Ana River basin water resources to maximize beneficial uses within the watershed in an economically and environmentally responsible manner. A key component of SAWPA's long term vision is to lay out an adaptive approach to make the region entirely self sufficient during drought cycles, thereby firming up the regions ability to assure a stable economy, while improving water

quality, and also allowing more of the State's scarce water resources to be allocated to wildlife and agriculture during those times. Through this approach SAWPA is able to develop and maintain regional strategies, programs and projects that protect and preserve the water resources of the Santa Ana River basin.

In recognition of the vital nature of SAWPA's groundwater resources as part of the total water supply available to landowners and water users, and in light of federal, state, and local issues impacting, or potentially impacting, those resources, SAWPA's Board of Directors has authorized by Resolution (attached hereto as Appendix B), the preparation of a Regional Groundwater Management Plan (Plan).

Agency Coordination

Although SAWPA is not directly responsible for managing any of the groundwater basins in the watershed, SAWPA provides regional coordination of the numerous groundwater management planning efforts within the Santa Ana Watershed. In the watershed basins are adjudicated or formally managed such that all sources and uses of groundwater are monitored and evaluated annually.

Agencies directly responsible for managing groundwater in the watershed include Orange County Water District (Orange County Basin), Chino Basin Water Master (Chino Basin), San Bernardino Valley Municipal Water District (Upper Basins), Eastern Municipal Water District (San Jacinto Basin) and the Santa Ana River Water Master (Riverside, Colton Basins). All have existing plans to manage groundwater. These plans are listed in Table 1 and are summarized below. A report cover and table of contents for most of the existing plans listed in Table 1 are included in Appendix C. In addition to the groundwater management plans, there have been a number of other important plans developed by the Santa Ana Regional Water Quality Control Board (SARWQCB) and others to protect beneficial uses of water in the Santa Ana Watershed as well as protect water quality and water supply. A brief description of the each of these additional plans, as well as, groundwater management plans is provided after Table 1.

Table 1 Santa Ana Watershed Water and Groundwater Management Plans

Plan	Authorizing Agency	Relationship to SAWPA
Orange County Groundwater Management Plan	Orange County Water District, March 2004	SAWPA Member Agency
Chino Basin Optimum Basin Management Program	Chino Basin Water Master	Informal Cooperating
Western Judgment Rialto Basin Decree Orange County Judgment San Bernardino Valley Municipal Water District Master Plan, Final Draft Santa Ana River Water Right Applications for Supplemental Water Supply Environmental Impact Report Seven Oaks Accord U.S. EPA, the U.S. Department of the Army, the City of San Bernardino, and the California Department of Toxic Substances Control - Consent Decree	San Bernardino Valley Municipal Water District	SAWPA Member Agency
West San Jacinto Groundwater Management Plan	Eastern Municipal Water District, April 2004	SAWPA Member Agency
Santa Ana Integrated Watershed Plan Update	SAWPA, April 2005 (public release)	

Orange County Groundwater Management Plan

The Orange County Water District (OCWD) is the manager of the Orange County groundwater basin and is responsible for meeting the water needs of area. OCWD prepared the Orange County Groundwater Management Plan in March 2002 to address the requirements of CWC Section 10750 as well as Senate Bill 1938 which includes a list of issues to be addressed to ensure compliance of groundwater management plans with the California Water Code. The plan discusses the hydrogeology of the Orange County groundwater basin detailing groundwater sub basins, water budget, groundwater storage and groundwater elevation trends. The plan also includes a groundwater monitoring component that includes an overview of groundwater extraction in the basin, methods used to assess groundwater elevations and basin storage, groundwater monitoring programs including Title 22 monitoring, a description of sea water intrusion monitoring and prevention measures, as well as land subsidence. Groundwater production management, recharge water supply management, groundwater quality management, groundwater quality improvement projects, water demand, water supply and financial management are also part of the plan.

Chino Basin Optimum Basin Management Plan

The Chino Basin Watermaster (CBWM) is the manager of Chino groundwater basin. CBWM prepared the Optimum Basin Management Plan in August 1999. The plan includes a state of the basin which describes the basin in terms of historical groundwater levels, storage, production, water quality and safe yield. Current and projected water demands and water supply plans are also described. The goal of the plan is to develop a groundwater management program that enhances the safe yield and the water quality of the basin, enabling all groundwater users to produce water from the basin in a cost-effective manner. The plan includes a monitoring program for groundwater levels as well as program for monitoring well construction, abandonment and destruction.

San Bernardino Valley Municipal Water District

Western Judgment

Provisions of the physical solution set forth in the Judgment in Case No. 78426, Western Municipal Water District of Riverside County et al., vs. East San Bernardino County Water District et al., entered April 17, 1969, in the superior Court of the State of California in and for the County of Riverside, established the entitlements and obligations of the San Bernardino Valley Municipal Water District (SBVMWD) and the Western Municipal Water District (WMWD) with regard to the San Bernardino, Riverside and Colton groundwater basins. The judgment establishes the safe yield of the San Bernardino Basin Area to be 232,100 acre-feet per year. The adjusted right for use within SBVMWD is 167,238 acre-feet per year. The adjusted right for use within WMWD is 64,862 acre-feet per year.

Orange County Judgment

The complaint in the case was filed by Orange County Water District on October 18, 1963, seeking an adjudication of water rights against substantially all water users in the area tributary to Prado Dam within the Santa Ana River Watershed, but excluding the area tributary to Lake Elsinore. The judgment obligates the San Bernardino Valley Municipal Water District to assure an average annual Adjusted Base Flow of 15,250 acre-feet at Riverside Narrows. Under a provision in the judgment, this amount was reduced to 12,420 acre-feet in 1986. The judgment also obligates the Inland Empire Utilities Agency and the Western Municipal Water District to assure and average annual Adjusted Base Flow of 42,000 acre-feet at Prado Dam. Under a provision in the judgment, this amount was reduced to 34,000 acre-feet in 1986.

Rialto Basin Decree

On December 22, 1961, a decree, a stipulated judgment, was entered for the Lytle Creek Water and Improvement Company, a corporation, vs. Fontana Ranchos Water Company, a corporation, et al., San Bernardino County Superior Court Case Number 81264. Several of the stipulating parties requested San Bernardino Valley Municipal Water District to monitor the compliance with the decree. The decree specifies the maximum extractions from the basin and establishes three index wells which are to be used to determine the water surface elevation of the Rialto basin. The water surface elevation is defined to be the average water surface elevation of

the three index wells. If the water surface elevation is below certain levels, then pumping amounts for all parties are reduced.

San Bernardino Valley Municipal Water District Master Plan, Final Draft

San Bernardino Valley Municipal Water District prepared their Master Plan in August 1995. The Master Plan proposes water conservation measures; generalized groundwater management concepts for the San Bernardino Basin, Yucaipa Basin and Rialto-Colton Basin; as well as general surface water management concepts for groundwater recharge, management of imported supplies, reclaimed water, and spreading operations.

Santa Ana River Water Right Applications for Supplemental Water Supply Draft Environmental Impact Report

The San Bernardino Valley Municipal Water District and Western Municipal Water District have filed applications with the State Water Resources Control board to divert up to a maximum of 200,000 acre-feet per year of water from the Santa Ana River. The draft EIR evaluates the potential environmental impacts of this project which includes groundwater management concepts and a compilation of the facilities necessary to utilize the water.

Seven Oaks Accord

On July 21, 2004, a settlement agreement ("Seven Oaks Accord") was reached between the San Bernardino Valley Municipal Water District and Western Municipal Water District and a number of water users related to the diversion of water from the Santa Ana River. The agreement calls for SBVMWD/WMWD to develop and manage a groundwater spreading program that is intended to maintain groundwater levels at a number of specified monitoring wells. This integrated water resources management program will be adopted within five years of the State Water Resources Control Board approving the SBVMWD/WMWD Santa Ana River water right applications.

U.S. Department of the Army, the City of San Bernardino, and the California Department of Toxic Substances Control - Consent Decree

This Consent Decree (CD) - among the U.S. EPA, the U.S. Department of the Army, the City of San Bernardino, and the California Department of Toxic Substances Control - resolves claims by the City of San Bernardino and the California Department of Toxic Substances Control against the U.S. Army over alleged groundwater contamination, and provides funds for the cleanup of the contamination.

Under the settlement, the City of San Bernardino is required to use most of the funds to operate and maintain EPA's groundwater extraction and treatment remedies at the Newmark Groundwater Contamination Superfund Site for up to fifty years. The City of San Bernardino may use some of the funds to build additional treatment plants to expand its water delivery capacity.

The CD provides for development of a groundwater management program, and implementation of institutional controls (IC) to ensure the effectiveness and integrity

of the groundwater Interim Remedial Action (IRA) facilities for the Newmark Operable Unit (OU) and Muscoy OU.

On January 1, 2005, an agreement amongst water agencies in the area was adopted for purposes of developing and adopting an Institutional Controls Groundwater Management Program (ICSA). Under the institutional controls groundwater management program (ICGMP), proposed projects planned within the associated Management Zone will be assessed, either through the ICSA group or through an ordinance to be adopted by the San Bernardino Municipal Water Department.¹

West San Jacinto Groundwater Management Plan

Eastern Municipal Water District prepared the San Jacinto Groundwater Management Plan in 1995. The goal of the plan was to maximize the use of groundwater for all beneficial uses in such a way as to lower the cost of water supply and to improve the reliability of the total water supply for all water users in the West San Jacinto Groundwater Basin Management area. A report is issued each year on the status of groundwater sub basins within the West San Jacinto Groundwater Basin. The most recent report was issued in April 2004.

Santa Ana Integrated Watershed Plan

2005 Update to the Santa Ana Integrated Watershed Plan prepared by SAWPA. Updated plan discusses the resources of the Santa Ana Watershed including hydrogeology, land use, biological resources, water supply, water quality, flood control, and demographics. The Plan also presents integrated regional watershed management strategies including water storage, water quality improvements, water recycling, flood protection, wetlands, environment and habitat, as well as recreation and conservation. A recommended regional implementation plan is also presented and includes regional priorities, impacts and benefits, institutional structure, schedule, and monitoring performance.

Water Quality Control Plan Santa Ana River Basin

The Water Quality Control Plan was developed by the Santa Ana Regional Water Quality Control Board (SARWQCB) in January 1995. The plan establishes water quality standards for all ground and surface waters in the Santa Ana Watershed. The Basin Plan includes an implementation plan describing the actions by the Regional Board and others that are necessary to achieve and maintain the water quality standards. The plan includes a summary of water plans and policies in the watershed, a description of beneficial uses of water in the watershed, water quality objectives for surface and groundwater, an implementation plan to achieve the goals, water monitoring programs, and water resources and water quality management programs.

¹ SECOR International Incorporated, DRAFT WORK PLAN GROUNDWATER FLOW MODELING Newmark Groundwater Contamination Superfund Site San Bernardino, California, April 2005.

2004 Basin Plan Amendment for TIN and TDS

The Basin Plan Amendment is an update to the Water Quality Control Plan. The Basin Plan Amendment was approved by the SARWQCB in January 2004. The purpose of the Basin Plan Amendment was to provide new TIN and TDS groundwater quality objectives based on the best science and data available, promote effective water resource management and water quality protection, and increase the reuse of recycled water to meet rapidly increasing water demands within the watershed. The Basin Plan Amendment was developed through the efforts of the Nitrogen/TDS Task Force (Task Force) formed in 1995-1996. The Task Force consisted of 22 water supply and wastewater agencies in the watershed coordinated by SAWPA with active participation from SARWQCB. Studies conducted by the Task Force totaled \$3.5 million dollars and included review of groundwater TDS and nitrate-nitrogen objectives, groundwater sub basin boundaries, and the TIN and TDS wasteload allocations. The Basin Plan also included TDS and Nitrogen monitoring requirements for the 22 agencies with a schedule of implementation.

Santa Ana RWQCB Non-Point Source Management Plan

In 1988, the State Board adopted the Nonpoint Source Management Plan which established the framework for statewide nonpoint source activities. The Management Plan for the Santa Ana Watershed addressed urban runoff through a stormwater permitting program, addressed animal confinement facilities through the Dairy Regulatory Strategy, addressed on-site disposal systems through prohibitions and the Minimum Lot-Size Criteria, and addressed erosion/sedimentation in the Newport Bay watershed through the implementation of the area wide 208 Plan.

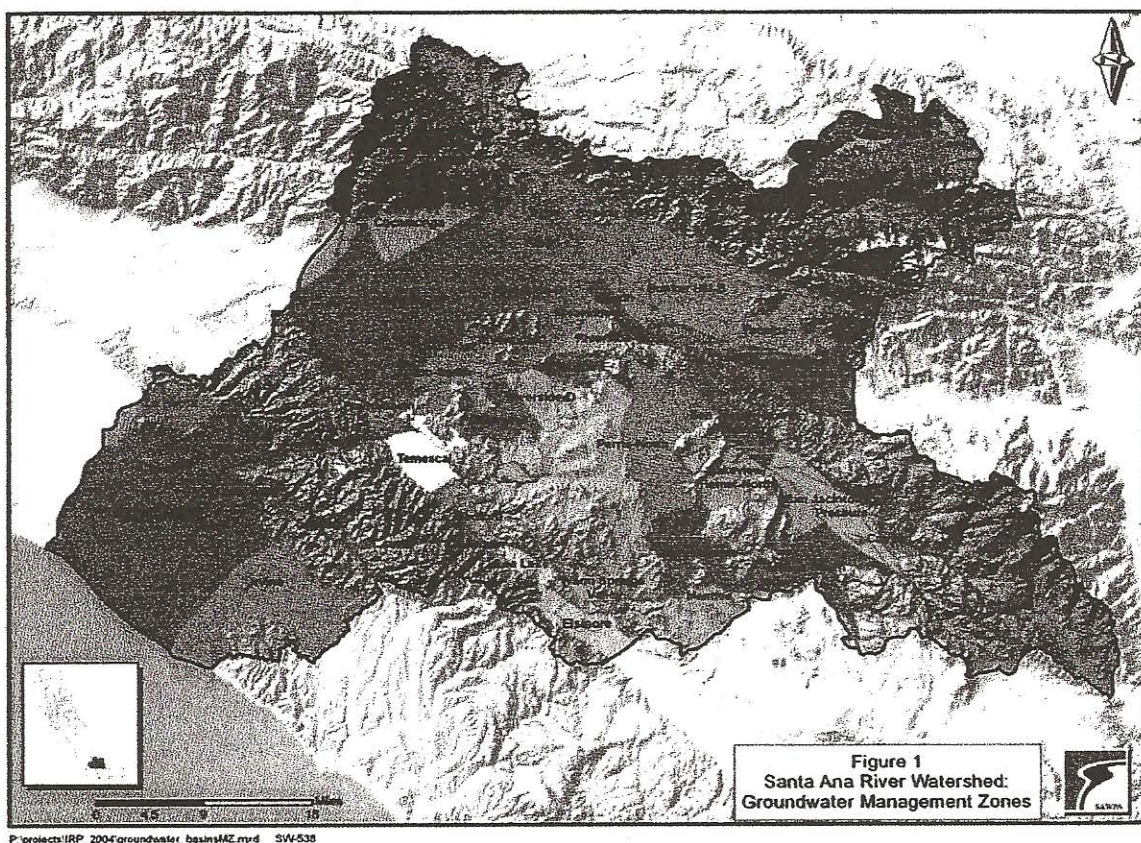
Santa Ana RWQCB Stormwater Management Plan

The goal of the stormwater program is to control stormwater discharges associated with industrial activity, and discharges from large and medium municipal separate storm sewer systems through discharge permits issued by the SARWQCB. These permits require the development and implementation of programs to identify and eliminate illegal/illicit discharges to municipal stormwater conveyance systems, the development and implementation of best management practices (BMPs) to reduce pollutants in stormwater and urban runoff, and the development and implementation of monitoring programs.

Public Participation

The California Water Code requires that the development of the Groundwater Management Plan include a public participation component. SAWPA fulfilled this requirement through publicly-noticed meetings held as part of the SAWPA's regularly-scheduled board meetings.

In addition to the publicly-noticed public participation opportunities, SAWPA's plan was developed with input and review from various agencies through an ongoing collaborative stakeholder process. This process was conducted as part of SAWPA's regular monthly Board meetings included SAWPA's five member agencies Eastern Municipal Water District (EMWD), Inland Empire Utilities Agency (IEUA), Orange County Water District (OCWD), San Bernardino Valley Municipal Water District (SBVMWD) and Western Municipal Water District (WMWD), as well as, the Metropolitan

Figure 1 Santa Ana Watershed Groundwater Basins

Groundwater Management Program

The Basins in the Santa Ana River Watershed are among the most rigorously managed and regulated in the State. Planning and management efforts evaluating groundwater needs and supplies have been established for most of the basins within the watershed covering up to the next 20 to 40 years.

SAWPA's regional groundwater management program, a component of SAWPA's overall watershed management program is formed based upon the various groundwater management strategies of SAWPA's individual member agencies. It is SAWPA's role within the watershed to consider the components of these individual management strategies and incorporate them together into a broader overall regional strategy, which remains focused on SAWPA's long term regional program goals. This result of this approach, is a program broad enough to incorporate economies of scale into the evaluation of regional issues, but also detailed enough to identify and address localized issues within the watershed. For specific groundwater management protocols and objectives please refer to the individual member agency plans listed in Table 1.

APPENDIX "B"

CONTRACT BETWEEN THE SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT AND RIVERSIDE HIGHLAND WATER COMPANY FOR A WATER SUPPLY FROM FACILITIES TO BE CONSTRUCTED KNOWN AS THE "BASELINE FEEDER"

This agreement is made by and between the San Bernardino Valley Municipal Water District, a municipal water district organized and existing under the Municipal Water District Law of 1911, hereinafter "SBVMWD," and Riverside Highland Water Company, a mutual water company organized and existing under the laws of the State of California, hereinafter "RHWC," on the date written at the end hereof.

RECITALS

The SBVMWD proposes to construct water facilities known as the "Baseline Feeder" consisting of a pipeline and associated facilities to convey water from the southern and central part of the San Bernardino Basin to users on the west side of the SBVMWD. It is anticipated that the SBVMWD will finance the cost of such facilities through arrangements with a lender or lenders. The parties desire to provide assurance through this agreement and related agreements that the additional water supply required by RHWC will be available to it, and that the cost of the facilities to be constructed pursuant to this agreement will be amortized by the parties contracting for such supply.

NOW THEREFORE, IT IS AGREED as follows:

1. The SBVMWD shall construct the Baseline Feeder

facilities for delivery of water into RHC's distribution system as shown on Plate 1. In performing such construction the wells shall be drilled and tested prior to construction of the other facilities. Upon completion of the facilities SBVMWD shall deliver water to RHC's system in quantities as required to meet the delivery schedule of RHC arranged pursuant to this agreement. Except as otherwise specifically agreed by SBVMWD, the facilities constructed by the SBVMWD shall be its property, and it shall be responsible for their operation, maintenance and replacement.

2. RHC shall be entitled to delivery of water from the Baseline Feeder in the flow rates and amounts and upon the schedule attached hereto as Exhibit "A". During the period this agreement is in effect or any extension thereof, SBVMWD shall reserve capacity in the Baseline Feeder facilities to make such deliveries to RHC. RHC shall periodically submit a schedule of actual deliveries desired so that reasonable operation requirements for such deliveries may be met. The water delivered shall comply with public health standards for domestic use. Deliveries shall be made in accordance with the SBVMWD Rules and Regulations for the Sale and Delivery of Water as they may from time to time be in effect.

3. RHC shall pay for its rights to the delivery of water provided herein in accordance with the schedule set forth on Exhibit "B" attached hereto. Failure or refusal to accept delivery of water to which it is entitled shall in no way

relieve it of its obligation to make payments to the SBVMWD as provided for herein. RHWC shall make such payments as they become due, notwithstanding any individual default by its customers or users, or any change in its requirements.

4. The water made available for delivery hereunder is an extraction by RHWC under the definitions and provisions of the stipulated judgment entered in the case of Western Municipal Water District, et al., v. East San Bernardino County Water District, et al., Riverside Superior Court No. 78426 (hereinafter "Western Judgment.") RHWC is limited by the Western Judgment in the total extractions which it may make from the San Bernardino Basin Area; such limitation is currently 4,294 acre-feet per year. Further, RHWC is limited in the amount of water it can export from the San Bernardino Basin Area to areas outside SBVMWD; such limitation is currently 1,845 acre-feet per year. Nothing in this agreement alters those amounts.

Paragraph VI (b) 6 of the Western Judgment allows SBVMWD and Western Municipal Water District to make an agreement which would enable RHWC to exceed the 4,294 acre-feet per year limit provided that the excess water is imported or supplemental water supplied by SBVMWD. SBVMWD agrees to pursue making such an agreement with Western. RHWC agrees that water produced in excess of their Western Judgment rights pursuant to such an agreement between SBVMWD and Western is only for use within the SBVMWD and shall not be exported outside SBVMWD.

Nothing in this agreement shall be construed to restrict

RHWC from participating (or to authorize participation) in agreements or court proceedings to allow temporary additional extractions from the San Bernardino Basin Area under the Western Judgment for export outside the boundaries of the SBVMWD.

5. This agreement shall be in effect for a period of 20 years commencing January 1, 1990 and ending December 31, 2009; provided that it shall not terminate until the debt incurred by the SBVMWD for the Baseline Feeder Facilities is paid in full. At any time during the last year (2009) if RHWC is not then in default under the terms herein, RHWC may extend this agreement for an additional 10 years by written notice given to SBVMWD. RHWC shall have options to extend this agreement for two additional 10 year periods, each to be exercisable during the last year to which this agreement has theretofore been extended, if RHWC is not then in default.

6. This agreement shall be contingent upon the occurrence of all the following events on or before February 1, 1990.

a. Execution of sufficient purchase agreements with the West San Bernardino County Water District, the City of Rialto and other users for the Baseline Feeder project to guarantee the SBVMWD that it will receive payments sufficient to cover the capital cost of the facilities.

b. Execution of an agreement with the City of San Bernardino providing for the right of way for the pipeline.

c. Execution of an agreement with the San Bernardino County Flood Control District providing for the Baseline Feeder to cross San Bernardino County Flood Control District property and facilities.

On or about said date, SBVMWD shall notify RHWC whether or not such contingencies have occurred. If such contingencies have not occurred, this agreement shall be of no further force and effect; if such contingencies have occurred the parties hereto shall proceed with the fulfillment of the terms hereof.

7. RHWC shall have access to all the accounting records and meter readings taken by SBVMWD upon reasonable notice to SBVMWD.

8. Neither this Agreement nor any duties or obligations hereunder shall be assigned by RHWC without the prior written consent of the SBVMWD, which consent shall not be withheld without good cause, and any such assignment without the consent of the SBVMWD shall at its option be void. Subject to the foregoing, this agreement and all of its provisions shall apply to and bind the successors and assigns of the parties.

9. Each party to this Agreement agrees to execute and deliver all documents and perform all further acts that may be reasonably necessary to carry out the provisions of this Agreement.

10. (This paragraph not used so as to retain numbering consistent with other similar agreements.)

11. If a dispute arises as to the interpretation or implementation of any provision of this Agreement, the issue or issues in dispute or matter requiring action may be submitted to arbitration. For such purposes, an arbitrator shall be selected by agreement of the Parties. The agreed-upon arbitrator shall proceed to arbitrate the matter in accordance with the provisions of Title 9, Part 3, of the California Code of Civil Procedure (Section 1280 et seq.).

12. In the event of legal action or arbitration to enforce or interpret this Agreement or any of its provisions, the prevailing Party shall be entitled, in addition to any other form of relief, to recover its reasonable attorney's fees and costs of suit.

13. The SBVMWD may temporarily discontinue or reduce the delivery of water to the RHWC hereunder for the purposes of necessary investigation, inspection, maintenance, repair, or replacement of any facilities necessary for the delivery of water to RHWC. The SBVMWD shall notify RHWC as far in advance as possible of any such discontinuance or reduction, except in cases of emergency, in which case advance notice need not be given. As nearly as possible any discontinuance or reduction in service shall be scheduled between October 1 and May 1. No such temporary discontinuance or reduction in deliveries shall excuse payment of the minimum monthly installment as set forth in Exhibit "B".

14. (a) Neither SBVMWD nor any of its officers, agents,

or employees shall be liable for the control, carriage, handling, use, disposal, or distribution of Baseline Feeder project water supplied to RHWC after such water has been delivered into RHWC facilities; nor for claim of damage of any nature whatsoever, including but not limited to property damage, personal injury or death, arising out of or connected with the control, carriage, handling, use, disposal or distribution of such water beyond said point; and RHWC shall indemnify and hold harmless SBVMWD and its officers, agents, and employees from any such damages or claims of damages.

(b) Neither RHWC nor any of its officers, agents, or employees shall be liable for the control, carriage, handling, use, disposal, or distribution of Baseline Feeder project water before such water has passed out of the facilities constructed and owned by SBVMWD; nor for claim of damage of any nature whatsoever, including but not limited to property damage, personal injury or death, arising out of or connected with the control, carriage, handling, use, disposal, or distribution of such water before it has passed beyond said point; and the SBVMWD shall indemnify and hold harmless RHWC and its officers, agents, and employees from any such damages or claims of damages.

15. It is recognized that from time to time additional facilities, pipelines, wells and/or booster stations may be constructed in addition to the Baseline Feeder facilities. RHWC and SBVMWD agree to negotiate in good faith additional capacity, terms of operation, and costs for these new facilities and to

reach agreement upon the costs and operating criteria for these new facilities before changing the then current operating and payment provisions for the Baseline Feeder facilities as provided in this agreement.

16. (This paragraph not used so as to retain numbering consistent with other similar agreements).

17. Except as may be otherwise agreed by the parties hereto, after RHWC has commenced making payments under this contract and until the debt incurred to finance the Baseline Feeder facilities has been paid off, any contract entered into by the SBVMWD with any other entity which entitles such entity to delivery of water from the Baseline Feeder facilities and reserves capacity in the Baseline Feeder facilities to make such deliveries shall require such entity to make payment at not less than the terms and rates specified in this contract, including provision for prior capital costs.

18. SBVMWD may, at its option, waive satisfaction of the contingencies specified in section 6.

19. RHWC desires to implement this agreement upon only a stand-by basis at this time and does not expect to take any water deliveries at the time of initial operation. During such period prior to receipt of actual deliveries RHWC shall pay only the capital cost component as specified in Exhibit B. At such future time as actual deliveries are made to RHWC, RHWC will pay

the full price based on the procedures specified in Exhibit B.

Dated: January 8, 1990

San Bernardino Valley
Municipal Water District

by 
President

ATTEST:


Secretary

Dated: January 18, 1990

RIVERSIDE HIGHLAND WATER
COMPANY

by 
President

ATTEST:

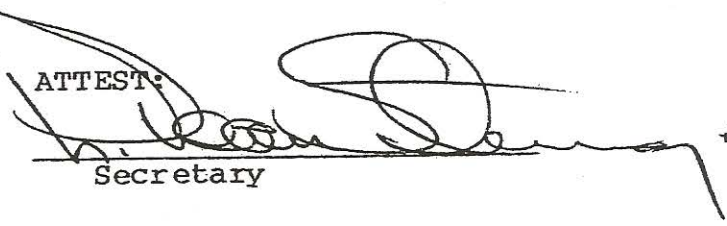

Secretary

EXHIBIT "A"

Schedule of Deliveries Available

	<u>Maximum Flow Rate</u>
First Year	1,000 gpm
Subsequent Years	1,000 gpm

EXHIBIT "B"

Payment Schedule

Price per acre foot

Price per acre foot shall be determined as follows:

<u>Fiscal Year</u>	<u>Pricing formula</u>
1st	\$30.00
2nd through 20th (until RHC first takes delivery of water)	The higher of (a) \$30.00; or (b) \$30.00 capital recovery charge (adjusted as provided below).
2nd through 20th (after RHC has taken its first water deliveries)	The higher of (a) \$30.00; or (b) \$30.00 capital recovery charge (adjusted as provided below), plus actual pumping and maintenance cost, plus actual treatment cost, if any, as determined by the SBVMWD board.
after 20th	As set by the SBVMWD board

The first fiscal year shall commence the first day of the first month in which deliveries are made, or the first day of the sixth month prior to the first month in which SBVMWD has an obligation to make payments on principal or interest of debt incurred to construct the Baseline Feeder Facilities, whichever is earlier. The \$30 capital recovery charge shall be adjusted annually to reflect the actual capital payments for the Baseline Feeder facilities.

Minimum Annual Payment

The minimum annual payment shall be an amount computed at the above price per acre foot for 1,000 acre feet for the first year and for 1,000 acre feet for subsequent years.

Payment Schedule

The minimum annual payment shall be made in 12 equal monthly installments ("minimum monthly installment") due on the first day of each month. Payment for quantities delivered in excess of the quantity covered by the minimum monthly installment shall be made by the 15th day of the following month, and may be deducted from the minimum monthly installment in any subsequent month in such fiscal year in which the minimum monthly installment exceeds a charge based on the price per acre foot, to the extent of such excess.

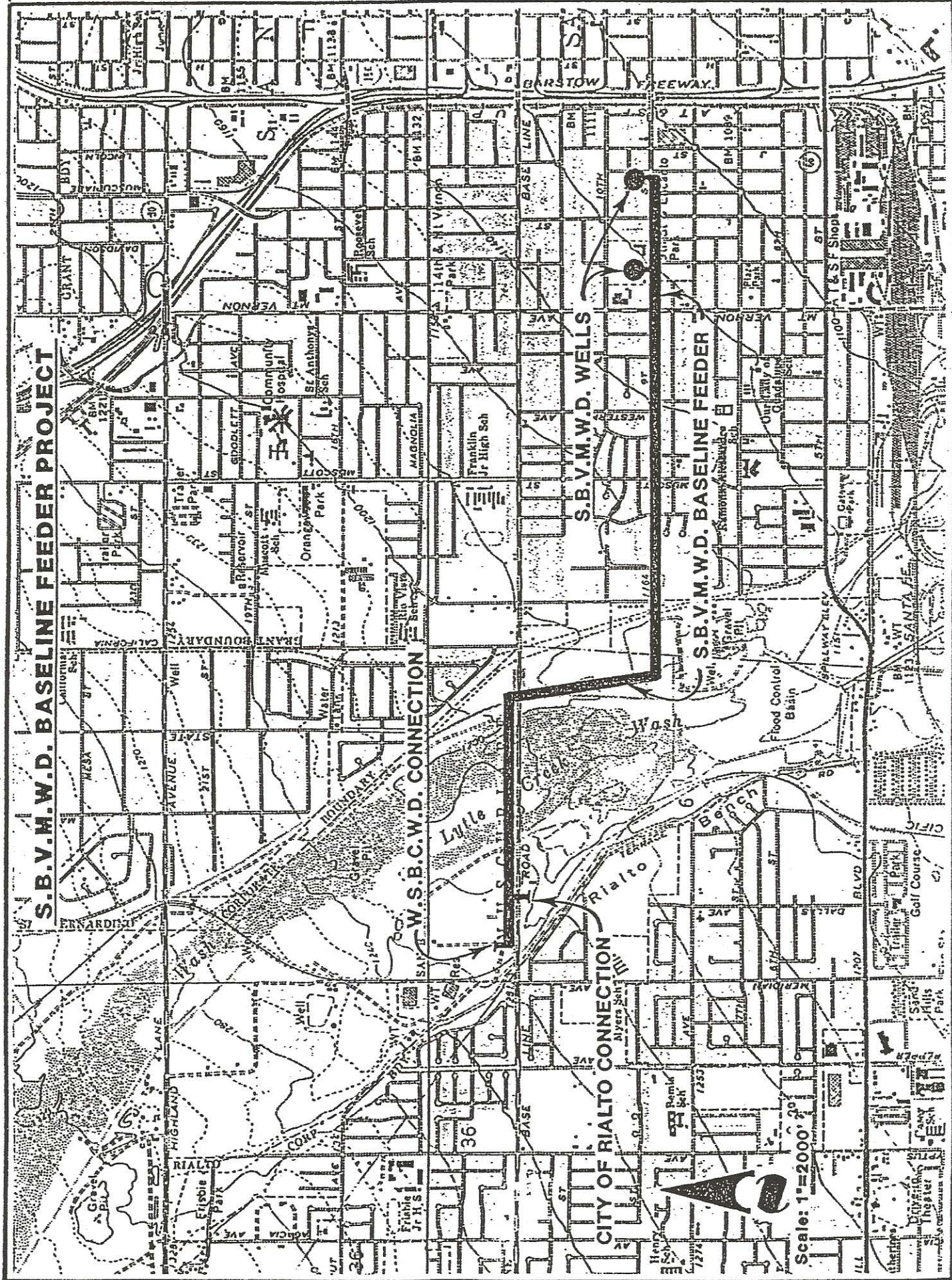
S.B.V.M.W.D. BASELINE FEEDER PROJECT

W.S.B.C.W.D. CONNECTION

S.B.V.M.W.D. WELLS

S.B.V.M.W.D. BASELINE FEEDER

CITY OF RIALTO CONNECTION



Scale: 1"=2000'

APPENDIX "C"

FILED
APR 17 1969

W. E. ST JOHN, County Clerk
C. B. [Signature]
Deputy

ENTERED IN
JUDGMENT BOOK

No. 262 Page 303
Date APR 17 1969

SUPERIOR COURT FOR THE STATE OF CALIFORNIA
FOR THE COUNTY OF ORANGE

ORANGE COUNTY WATER DISTRICT,

Plaintiff,

v.

CITY OF CHINO, et al.,

Defendants.

CITY OF CHINO, et al.,

Cross-Complainants,

v.

CITY OF ANAHEIM, et al.,

Cross-Defendants.

CORONA FOOTHILL LEMON COMPANY, et al.,

Cross-Complainants,

v.

CITY OF ANAHEIM, et al.,

Cross-Defendants.

CITY OF POMONA, a municipal corporation,

Cross-Complainant,

v.

CITY OF ANAHEIM, et al.,

Cross-Defendants.

No. 117628

JUDGMENT

1 CITY OF RIVERSIDE, et al.,
2 Cross-Complainants,
3 v.
4 CITY OF ANAHEIM, et al.,
5 Cross-Defendants.
6
7 BEAR VALLEY MUTUAL WATER COMPANY, et al.,
8 Cross-Complainants,
9 v.
10 CITY OF ANAHEIM, et al.,
11 Cross-Defendants.
12
13 SAN BERNARDINO VALLEY MUNICIPAL WATER
DISTRICT, a municipal water district,
14 Cross-Complainant,
15 v.
16 CITY OF ANAHEIM, et al.,
17 Cross-Defendants.
18
19 EAST SAN BERNARDINO COUNTY WATER
DISTRICT, a county water district,
20 Cross-Complainant,
21 v.
22 CITY OF ANAHEIM, et al.,
23 Cross-Defendants.
24
25 CITY OF SAN BERNARDINO, a municipal
corporation,
26 Cross-Complainant,
27 v.
28 CITY OF ANAHEIM, et al.,
29 Cross-Defendants.
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1 CITY OF REDLANDS, a municipal corporation,
2 Cross-Complainant,
3 v.
4 CITY OF ANAHEIM, et al.,
5 Cross-Defendants.
6
7 CITY OF COLTON, a municipal corporation,
8 Cross-Complainant,
9 v.
10 CITY OF ANAHEIM, et al.,
11 Cross-Defendants.
12
13 SAN BERNARDINO VALLEY WATER CONSERVATION
14 DISTRICT, a water conservation district,
15 Cross-Complainant,
16 v.
17 CITY OF ANAHEIM, et al.,
18 Cross-Defendants.
19
20 CITY OF RIALTO, a municipal corporation,
21 Cross-Complainant,
22 v.
23 CITY OF ANAHEIM, et al.,
24 Cross-Defendants.
25
26 BIG BEAR MUNICIPAL WATER DISTRICT, a
27 municipal water district,
28 Cross-Complainant,
29 v.
30 CITY OF ANAHEIM, et al.,
31 Cross-Defendants.
32

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1 supply of the Santa Ana River system. Sufficient information and
2 data of a general nature are known to formulate a reasonable and
3 just allocation as between the major hydrologic sub-areas within
4 the watershed, and such a physical solution will allow the public
5 agencies and water users within each such major hydrologic sub-
6 area to proceed with orderly water resource planning and develop-
7 ment.

8 e. Parties. Orange County Water District, Chino Basin
9 Municipal Water District, Western Municipal Water District of
10 Riverside County and San Bernardino Valley Municipal Water District
11 are public districts overlying, in the aggregate, substantially all
12 of the major areas of water use within the watershed. Said dis-
13 tricts have the statutory power and financial resources to imple-
14 ment a physical solution. Accordingly, dismissals have been entered
15 as to all defendants and cross-defendants other than said four pub-
16 lic districts.

17 f. Cooperation by Dismissed Parties. As a condition of
18 dismissal of said defendants and cross-defendants, certain of said
19 parties have stipulated to cooperate and support the inter-basin
20 water quality and water management objectives of the physical solu-
21 tion and this Judgment.

22 DECREE

23 NOW, THEREFORE, IT IS HEREBY ORDERED, ADJUDGED AND DECREED:

24 1. Jurisdiction. The Court has jurisdiction of the subject
25 matter of this action and of the parties herein.

26 2. Exhibits. The following exhibits are attached to this
27 Judgment and made a part hereof.

28 (a) Exhibit A -- map entitled "Santa Ana River
29 Watershed", showing boundaries and other relevant
30 features of the area subject to this Judgment.

31 (b) Exhibit B -- Engineering Appendix.

32 3. Definitions. As used in this Judgment, the following

1 terms shall have the meanings herein set forth:

2 (a) OCWD -- Orange County Water District,
3 appearing and acting individually and in a represen-
4 tative capacity for and on behalf of all riparian,
5 overlying and other landowners, water users and in-
6 habitants within said District pursuant to Subdivision
7 7 of Section 2 of the Orange County Water District Act,
8 as amended.

9 (b) CBMWD -- Chino Basin Municipal Water District,
10 appearing and acting pursuant to Section 71751 of the
11 California Water Code.

12 (c) WMWD -- Western Municipal Water District of
13 Riverside County, appearing and acting pursuant to
14 said Section 71751.

15 (d) SBVMWD -- San Bernardino Valley Municipal Water
16 District, appearing and acting pursuant to said Section
17 71751.

18 (e) Upper Districts -- CBMWD, WMWD and SBVMWD.

19 (f) Upper Area -- The area on Exhibit A which lies
20 upstream from Prado.

21 (g) Lower Area -- The area on Exhibit A which lies
22 downstream from Prado.

23 (h) Prado -- Said term shall be synonymous with
24 Prado Dam, a facility constructed and maintained by the
25 United States Corps of Engineers, as shown on Exhibit A.

26 (i) Riverside Narrows -- That bedrock narrows
27 in the Santa Ana River indicated as such on Exhibit A.

28 (j) Storm Flow -- That portion of the total sur-
29 face flow passing a point of measurement, which orig-
30 inates from precipitation and runoff without having
31 first percolated to ground water storage in the zone
32 of saturation, calculated in accordance with procedures

1 referred to in Exhibit B.

2 (k) Base Flow -- That portion of the total sur-
3 face flow passing a point of measurement, which re-
4 mains after deduction of Storm Flow, and modified as
5 follows:

6 (1) At Prado. Base Flow shall:

7 (i) include any water caused to be
8 delivered by CBMWD or WMWD directly to
9 OCWD, pursuant to its direction and control
10 and not measured at the gages at Prado;

11 (ii) exclude any nontributary water
12 or reclaimed sewage water purchased by
13 OCWD and delivered into the river upstream
14 and which subsequently passes Prado, and

15 (iii) exclude water salvaged from
16 evapo-transpiration losses by OCWD on lands
17 presently owned by it above Prado.

18 (2) At Riverside Narrows. Base Flow shall:

19 (i) include any water caused to be
20 delivered by SBVMWD directly to CBMWD or
21 WMWD pursuant to their direction and con-
22 trol, or directly to OCWD with the consent
23 of CBMWD and WMWD and pursuant to the direc-
24 tion and control of OCWD, and not measured
25 at the gage at Riverside Narrows;

26 (ii) exclude any nontributary water
27 purchased by CBMWD, WMWD or OCWD and deliv-
28 ered into the river upstream and which sub-
29 sequently passes Riverside Narrows; and

30 (iii) exclude any effluent discharged
31 from the City of Riverside sewage treatment
32 plant.

1 (l) TDS -- Total dissolved solids determined as
2 set forth in Exhibit B.

3 (m) Water Year -- The period from October 1 to
4 the following September 30. Where reference is made
5 herein to "year" or "annual", such terms shall be con-
6 strued as referring to Water Year, unless the context
7 indicates otherwise.

8 (n) Adjusted Base Flow -- Actual Base Flow in
9 each year adjusted for quality as provided herein-
10 below. Compliance with the respective obligations
11 under Paragraph 5 shall be measured by the Adjusted
12 Base Flow.

13 4. Declaration of Rights. Substantially all of the parties
14 to this action, whether situate in Upper Area or Lower Area have or
15 claim rights to the use of a portion of the water supply of the
16 Santa Ana River system. In the aggregate, water users and other
17 entities in Lower Area have rights, as against all Upper Area
18 claimants, to receive an average annual supply of 42,000 acre feet
19 of Base Flow at Prado, together with the right to all Storm Flow
20 reaching Prado Reservoir. Water users and other entities in Upper
21 Area have rights in the aggregate, as against all Lower Area claim-
22 ants, to divert, pump, extract, conserve, store and use all surface
23 and ground water supplies originating within Upper Area without
24 interference or restraint by Lower Area claimants, so long as Lower
25 Area receives the water to which it is entitled under this Judgment
26 and there is compliance with all of its provisions.

27 5. Physical Solution. The Court hereby declares the
28 following physical solution to be a fair and equitable basis for
29 satisfaction of all said rights in the aggregate between Lower Area
30 and Upper Area. The parties are hereby ordered and directed to
31 comply with this Physical Solution and such compliance shall con-
32 stitute full and complete satisfaction of the rights declared in

1 Paragraph 4 hereof.

2 (a) General Format. In general outline, SBVMWD
3 shall be responsible for the delivery of an average
4 annual amount of Base Flow at Riverside Narrows.
5 CBMWD and WMWD shall jointly be responsible for an
6 average annual amount of Base Flow at Prado. Inso-
7 far as Lower Area claimants are concerned, Upper Area
8 water users and other entities may engage in unlimited
9 water conservation activities, including spreading,
10 impounding and other methods, in the area above Prado
11 Reservoir, so long as Lower Area receives the water
12 to which it is entitled under the Judgment and there
13 is compliance with all of its provisions. Lower Area
14 water users and other entities may make full conser-
15 vation use of Prado Dam and reservoir, subject only
16 to flood control use.

17 (b) Obligation of SBVMWD. SBVMWD shall be re-
18 sponsible for an average annual Adjusted Base Flow
19 of 15,250 acre feet at Riverside Narrows. A contin-
20 uing account, as described in Exhibit B, shall be
21 maintained of actual Base Flow at Riverside Narrows,
22 with all adjustments thereof and any cumulative debit
23 or credit. Each year the obligation to provide Base
24 Flow shall be subject to the following:

25 (1) Minimum Annual Quantities. Without
26 regard to any cumulative credits, or any
27 adjustment for quality for the current Water
28 Year under subparagraph (2) hereof, SBVMWD
29 each year shall be responsible at Riverside
30 Narrows for not less than 13,420 acre feet of
31 Base Flow plus one-third of any cumulative
32 debit; provided, however, that for any year

1 commencing on or after October 1, 1986, when
2 there is no cumulative debit, or for any year
3 prior to 1986 whenever the cumulative credit
4 exceeds 10,000 acre feet, said minimum shall
5 be 12,420 acre feet.

6 (2) Adjustment for Quality. The amount
7 of Base Flow at Riverside Narrows received
8 during any year shall be subject to adjustment
9 based upon the weighted average annual TDS in
10 such Base Flow, as follows:

11 If the Weighted 12 Average TDS in 13 Base Flow at Riverside Narrows is:	Then the Adjusted Base Flow shall be determined by the formula:
14 Greater than 700 ppm	$Q - \frac{11}{15,250} Q \text{ (TDS-700)}$
15 600 ppm - 700 ppm	Q
16 Less than 600 ppm	$Q + \frac{11}{15,250} Q \text{ (600-TDS)}$

17 Where: Q = Base Flow actually received.

18 (3) Periodic Reduction of Cumulative Debit.
19 At least once in any ten (10) consecutive years
20 subsequent to October 1, 1976, SBVMWD shall pro-
21 vide sufficient quantities of Base Flow at Riverside
22 Narrows to discharge completely any cumulative
23 debits. Any cumulative credits shall remain on
24 the books of account until used to offset any
25 subsequent debits, or until otherwise disposed of
26 by SBVMWD.

27 (c) Obligation of CBMWD and WMWD. CBMWD and
28 WMWD shall be responsible for an average annual
29 Adjusted Base Flow of 42,000 acre feet at Prado. A
30 continuing account, as described in Exhibit B, shall
31
32

1 be maintained of actual Base Flow at Prado, with all
2 adjustments thereof and any cumulative debit or
3 credit. Each year the obligation to provide Base
4 Flow shall be subject to the following:

5 (1) Minimum Annual Quantities. Without
6 regard to any cumulative credits, or any adjust-
7 ments for quality for the current Water Year
8 under subparagraph (2) hereof, CBMWD and WMWD
9 each year shall be responsible for not less than
10 37,000 acre feet of Base Flow at Prado, plus one-
11 third of any cumulative debit; provided, however,
12 that for any year commencing on or after October 1,
13 1986, when there is no cumulative debit, or for
14 any year prior to 1986 whenever the cumulative
15 credit exceeds 30,000 acre feet, said minimum
16 shall be 34,000 acre feet.

17 (2) Adjustment for Quality. The amount of
18 Base Flow at Prado received during any year
19 shall be subject to adjustment based upon the
20 weighted average annual TDS in Base Flow and
21 Storm Flow at Prado as follows:

22 If the Weighted Average 23 TDS in Base Flow and Storm Flow at Prado is:	Then the Adjusted Base Flow shall be deter- mined by the formula:
24 Greater than 800 ppm	$Q - \frac{35}{42,000} Q \text{ (TDS-800)}$
25	
26 700 ppm - 800 ppm	Q
27	
28 Less than 700 ppm	$Q + \frac{35}{42,000} Q \text{ (700-TDS)}$

29 Where: Q = Base Flow actually received.

30 (3) Periodic Reduction of Cumulative Debit.
31 At least once in ten (10) consecutive years sub-
32 sequent to October 1, 1976, CBMWD and WMWD shall

1 provide sufficient quantities of Base Flow at
2 Prado to discharge completely any cumulative
3 debits. Any cumulative credits shall remain
4 on the books of account until used to offset
5 any subsequent debits, or until otherwise dis-
6 posed of by CBMWD and WMWD.

7 (d) Inter-basin Export. Upper Districts are
8 hereby restrained and enjoined from exporting water
9 from Lower Area to Upper Area, directly or indirectly.
10 OCWD is enjoined and restrained from pumping, produc-
11 ing and exporting or directly or indirectly causing
12 water to flow from Upper to Lower Area, except as to
13 salvage of evapo-transpiration losses, as follows:
14 OCWD owns certain lands within and above Prado Reser-
15 voir on which it has or claims certain rights to sal-
16 vage evapo-transpiration losses by pumping or otherwise.
17 Pumping for said salvage purposes shall not exceed
18 5,000 acre feet of ground water in any water year.
19 Only the actual net salvage, as determined by the
20 Watermaster, shall be excluded from Base Flow.

21 (e) Inter-basin Acquisition of Rights. The
22 acquisition by Upper Districts or other Upper Area
23 entities of Lower Area water rights shall in no way
24 affect or reduce Lower Area's entitlement; and the
25 acquisition of Upper Area water rights by OCWD or
26 other Lower Area entities shall be deemed to be in-
27 cluded within the aggregate entitlement of Lower Area
28 and shall not increase said entitlement.

29 (f) Effective Date. Obligations under this
30 physical solution shall accrue from and after
31 October 1, 1970.

32 6. Prior Adjudications. So long as SBVMWD is in

1 compliance with the terms of the physical solution herein, OCWD is
2 enjoined and restrained from enforcing the judgments listed below
3 against SBVMWD or any entities within or partially within SBVMWD
4 which have stipulated to accept and adopt such physical solution.
5 So long as WMWD and CBMWD are in compliance with the terms of the
6 physical solution, OCWD is enjoined and restrained from enforcing
7 the judgments listed below against WMWD and CBMWD or any entities
8 within or partially within WMWD or CBMWD which have stipulated to
9 accept and adopt such physical solution.

10 (a) The Irvine Company, plaintiff, Orange County
11 Water District, intervenor, vs. San Bernardino Valley
12 Water Conservation District, et al., defendants,
13 U. S. Dist. Ct., S.D. Cal. Civ. No. Y-36-M, judgments
14 entered September 11, 1942 (Judgment Book 11 page 134),
15 and recorded Book 1540 page 251 and Book 1541 page 85,
16 Official Records of San Bernardino County.

17 (b) Orange County Water District vs. City of
18 Riverside, et al., San Bernardino Superior Court
19 No. 84671.

20 7. Watermaster. The Watermaster, when appointed by the
21 Court, shall administer and enforce the provisions of this Judg-
22 ment and the instructions and subsequent orders of this Court.

23 (a) Composition, Nomination and Appointment.
24 The Watermaster shall consist of a committee com-
25 posed of five (5) persons. CBMWD, WMWD and SBVMWD
26 shall each have the right to nominate one represen-
27 tative and OCWD shall have the right to nominate
28 two (2) representatives to the Watermaster committee.
29 Each such nomination shall be made in writing, served
30 upon the other parties to the Stipulation for this
31 Judgment and filed with the Court. Said Watermaster
32 representatives shall be appointed by and serve at

the pleasure of and until further order of this Court.

(b) Watermaster Determinations. Each and every finding and determination of the Watermaster shall be made in writing certified to be by unanimous action of all members of the Watermaster Committee. In the event of failure or inability of said Watermaster Committee to reach unanimous agreement, the fact, issue, or determination in question shall forthwith be certified to this Court by the Watermaster, and after due notice to the parties and opportunity for hearing, said matter shall be determined by order of this Court.

(c) Annual Report. The Watermaster shall report to the Court and to each party in writing not more than five (5) months after the end of each Water Year, each of the items required by Paragraph 4 of the Engineering Appendix, Exhibit B hereto, and such other items as the parties may mutually request or the Watermaster may deem to be appropriate. All of the books and records of the Watermaster which are used in the preparation of, or are relevant to, such reported data, determinations and reports shall be open to inspection by the parties to the Stipulation for Judgment herein.

(d) Watermaster Service Expenses. The fees, compensation and expenses of each representative on the Watermaster shall be borne by the district which nominated such person. All other Watermaster service costs and expenses shall be borne by the parties in the following proportions:

OCWD - 40%

CBMWD - 20%

1 SBVMWD - 20%

2 WMWD - 20%

3 The Watermaster may from time to time in its discre-
4 tion require advances of operating capital from the
5 parties in said proportions.

6 8. Continuing Jurisdiction of the Court. Full jurisdic-
7 tion, power and authority are retained and reserved by the Court
8 for the purpose of enabling the Court, upon application of any
9 party or of the Watermaster by motion and upon at least 30 days'
10 notice thereof, and after hearing thereon:

11 (a) To make such further or supplemental orders
12 or directions as may be necessary or appropriate for
13 the construction, enforcement or carrying out of
14 this Judgment, and

15 (b) To modify, amend or amplify any of the pro-
16 visions of this Judgment whenever substantial changes
17 or developments affecting the physical, hydrological
18 or other conditions dealt with herein may, in the
19 Court's opinion, justify or require such modification,
20 amendment or amplification; provided, however, that
21 no such modification, amendment or amplification shall
22 change or alter (1) the average annual obligation of
23 CBMWD and WMWD for delivery of 42,000 acre feet of
24 Base Flow per year at Prado, (2) the average annual
25 obligation of SBVMWD for delivery of 15,250 acre feet
26 of Base Flow per year at Riverside Narrows, (3) the
27 respective minimum Base Flows at Riverside Narrows and
28 Prado, nor (4) the right of the parties to this Judg-
29 ment or of those who stipulate to accept and adopt the
30 physical solution herein to conserve or store flows.

31 9. Notices. All notices, requests, objections, reports
32 and other papers permitted or required by the terms of this

1 Judgment shall be given or made by written document and shall be
2 served by mail on each party and its attorney entitled to notice
3 and where required or appropriate, on the Watermaster. For all
4 purposes of this paragraph, the mailing address of each party and
5 attorney entitled to notice shall be that set forth below its sig-
6 nature in the Stipulation for Judgment, until changed as provided
7 below. If any party or attorney for a party desires to change its
8 designation of mailing address, it shall file a written notice of
9 such change with the Clerk of this Court and shall serve a copy
10 thereof by mail on the Watermaster. Upon receipt of any such
11 notice, the Watermaster shall promptly give written notice there-
12 of. Watermaster addresses for notice purposes shall be as speci-
13 fied in the orders appointing each representative on the Water-
14 master.

15 10. Successors. No party shall dissolve, nor shall it
16 abandon or transfer all or substantially all of its powers or
17 property, without first providing for its obligations under this
18 Judgment to be assumed by a successor public agency, with the
19 powers and resources to perform hereunder. Any such successor
20 shall be approved by the Court after notice to all parties and an
21 opportunity for hearing.

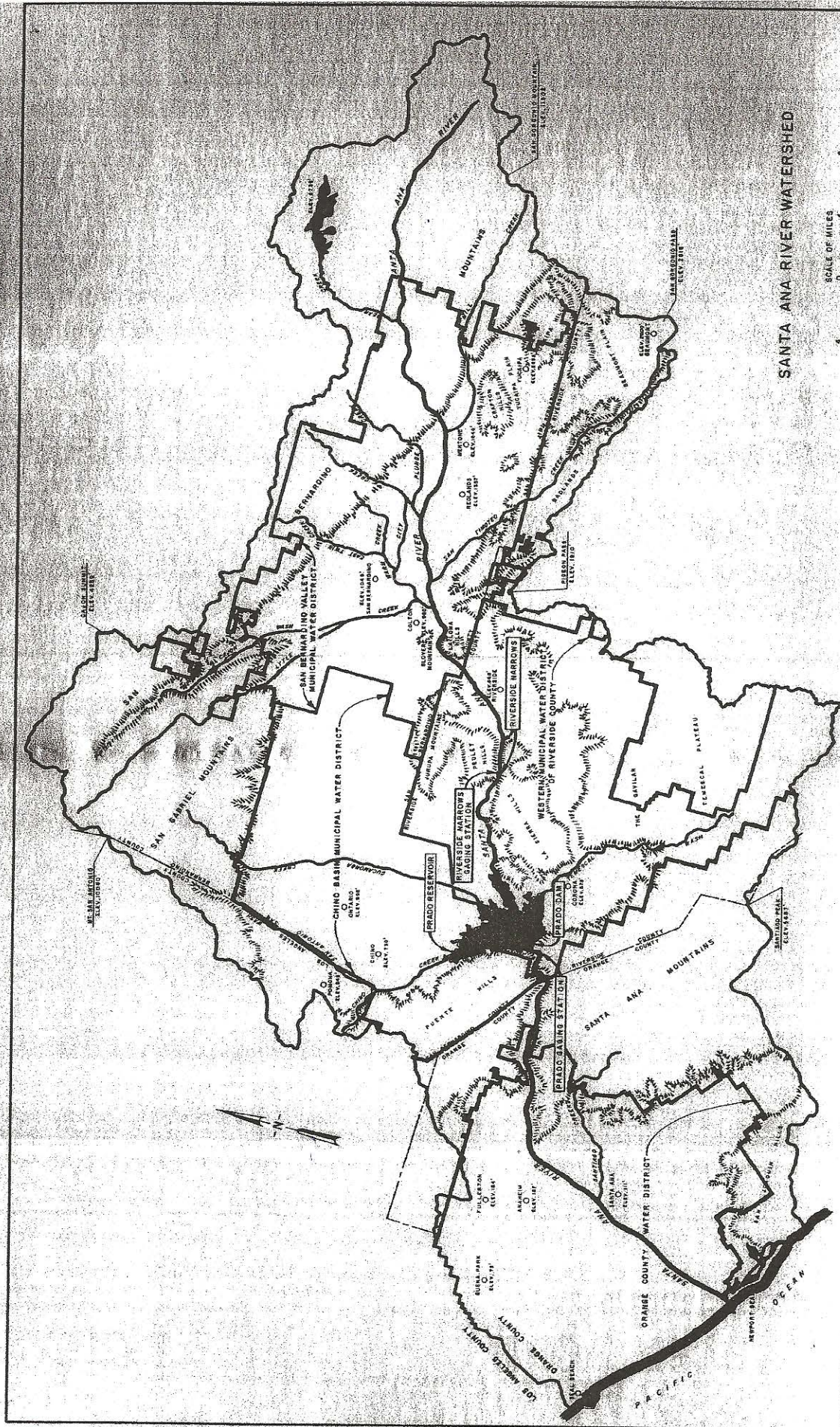
22 11. Future Actions. In the event that any Lower Area
23 claimant shall in the future obtain from any court of competent
24 jurisdiction a decree awarding to such claimant a right to receive
25 a stated amount of water from the Upper Area for use in the Lower
26 Area, any water delivered pursuant to such decree shall be consid-
27 ered as part of Base Flow. In the event that the relief obtained
28 by any such claimant is in the form of a restriction imposed upon
29 production and the use of water in Upper Area, rather than a right
30 to receive a stated amount of water, then notwithstanding the
31 proviso in Paragraph 8, any Upper District may apply to the Court
32 to modify the physical solution herein.

1 12. Costs. None of the parties shall recover any costs
2 from any other party.

3 Dated: April 17, 1969

4
5 
6 Judge

MAP OF SANTA ANA RIVER WATERSHED



SANTA ANA RIVER WATERSHED

ENGINEERING APPENDIX

ENGINEERING APPENDIX

The purpose of the Engineering Appendix is to establish the basis for measurements, calculations and determinations required in the operation of the physical solution.

1. Measurements.

In administering the physical solution, it will be necessary to determine the quantity and quality of stream flow and flow in pipelines or other conveyance facilities at several points along the Santa Ana River. Watermaster shall make, or obtain from United States Geological Survey (USGS), flood control districts or other entities, all measurements necessary for making the determinations required by the Judgment.

a. Change in Measuring Device or Location.

If any measuring device used or useful in making such determinations is inoperative, abandoned, changed or moved, Watermaster shall estimate the quantity that would have been measured at the station had it been operative at its original location, or may use a substitute device or location.

b. Erroneous Measurement. If Watermaster determines there is an error in any measurement or record, he may utilize his estimate in lieu of said measurement or record.

c. Preliminary Records. Watermaster may utilize preliminary records of measurement. If revisions are subsequently made in the records, Watermaster may reflect such changes in subsequent accounting.

2. Determination of Flow Components.

Since the records available only provide data on the total quantity of surface flow and since storm runoff occurs during and following periods of rainfall, Watermaster must determine what portion of total measured surface flow at Prado and at Riverside

1 Narrows is Storm Flow and what portion is Base Flow.

2 Under paragraph 3(k) of the Judgment, certain categories of
3 water are to be included or excluded from Base Flow. As such
4 waters may or may not be measured by the USGS gages at Prado and/or
5 Riverside Narrows, Watermaster must make appropriate adjustments to
6 account for the same.

7 The parties, in reaching the physical solution provided for
8 in the Judgment, used certain procedures to separate or scalp the
9 Storm Flow from the total measured surface flow and to determine
10 Base Flow. These procedures are reflected in the Work Papers of
11 the engineers, bound copies of which shall be filed with the Water-
12 master. Watermaster shall use either the same procedures or pro-
13 cedures which will give equivalent results, giving due considera-
14 tion to all sources of the surface flow measured at the gages, to
15 changes in the amounts and the proportionate contributions of each
16 source, and to changes in location of measuring points.

17 3. Water Quality Determinations.

18 It will be necessary to determine for each water year the
19 weighted average Total Dissolved Solids (TDS) content of the Base
20 Flow at Riverside Narrows and of the total flow at Prado.

21 TDS shall be determined by the method set forth under "B.
22 Filterable Residual", starting on page 245 of Standard Methods for
23 Examination of Water and Wastewater, Twelfth Edition, 1965, Library
24 of Congress Catalog Card No. 55-1979. The drying temperature shall
25 be 180° centigrade. Milligrams per liter (mg/l) shall be deemed
26 equivalent to parts per million (ppm) for purposes of the Judgment.

27 a. Procedure at Prado.

28 (1) Determinations of the electrical
29 conductivity at 25°C. near the gaging sta-
30 tion at Prado shall be made or obtained.

31 (2) A sufficient number of determinations
32 of TDS of the flow at the same point shall be

Exhibit "B"

1 made or obtained to provide the relationship
2 between TDS and electrical conductivity for
3 all rates of flow. This relationship shall be
4 used to determine the average daily TDS weighted
5 by flow, for each day of the year. During periods
6 of Storm Flow, samples shall be taken at least
7 daily.

8 (3) The annual weighted average TDS of
9 all waters passing Prado shall be determined.
10 Any direct deliveries or flows which are in-
11 cluded or excluded in the definition of Base
12 Flow as set forth in paragraph 3(k) of the Judg-
13 ment, shall be similarly included or excluded in
14 the calculation of the annual weighted average
15 TDS.

16 b. Procedure at Riverside Narrows. The proced-
17 ure to adjust Base Flow at Riverside Narrows shall
18 be the same as that outlined in paragraph a. above,
19 except that the annual weighted average TDS of Base
20 Flow only is to be determined. Therefore during
21 periods of Storm Flow, the TDS of Base Flow shall
22 be estimated.

23 4. Accounting.

24 Utilizing the appropriate obligations set forth in the
25 Judgment and the measurements, calculations and determinations
26 described in this Engineering Appendix, Watermaster shall maintain
27 a continuing account for each year of the following items.

28 a. Prado Accounting.

29 (1) Base Flow at Prado. See Paragraph 2
30 of this Engineering Appendix and Paragraph 3(k)
31 of the Judgment.

1 (2) Annual Weighted TDS of Total Flow
2 at Prado. See Paragraph 3a of this Engineer-
3 ing Appendix.

4 (3) Annual Adjusted Base Flow. See Para-
5 graph 5(c)(2) of the Judgment and items (1)
6 and (2) above.

7 (4) Cumulative Adjusted Base Flow. This
8 is the cumulation of quantities shown in item (3)
9 above.

10 (5) Cumulative Entitlement of OCWD at Prado.
11 This is the product of 42,000 acre feet multi-
12 plied by the number of years after October 1,
13 1970.

14 (6) Cumulative Credit or Debit. This is
15 item (4) minus item (5).

16 (7) One-third of Cumulative Debit. This is
17 equal to one-third of any cumulative debit shown
18 in item (6) above.

19 (8) Minimum Required Base Flow in Follow-
20 ing Year. This is the minimum quantity of Base
21 Flow at Prado which CBMWD and WMWD must jointly
22 cause to occur in the following year determined
23 in accordance with paragraph 5(c)(1) of the
24 Judgment and utilizing item (7) above.

25 b. Riverside Narrows Accounting.

26 (1) Base Flow at Riverside Narrows.
27 See Paragraph 2 of this Engineering Appendix
28 and Paragraph 3(k) of the Judgment.

29 (2) Annual Weighted TDS of Base Flow at
30 Riverside Narrows. See Paragraph 3b of this
31 Engineering Appendix.

32 (3) Annual Adjusted Base Flow. See

Exhibit "B"

Paragraph 5(b) (2) of the Judgment and items (1) and (2) above.

(4) Cumulative Adjusted Base Flow. This is the cumulation of quantities shown in item (3) above.

(5) Cumulative Entitlement of CBMWD and WMWD at Riverside Narrows. This is the product of 15,250 acre feet multiplied by the number of years after October 1, 1970.

(6) Cumulative Credit or Debit. This is item (4) minus item (5).

(7) One-third of Cumulative Debit. This is equal to one-third of any cumulative debit shown in item (6) above.

(8) Minimum Required Base Flow in Following Year. This is the minimum quantity of Base Flow at Riverside Narrows which SBVMWD must cause to occur in the following year determined in accordance with Paragraph 5(b) (1) of the Judgment and utilizing item (7) above.

APPENDIX "D"

FILED
RIV. DIST. COURT

APR 17 1969

DONALD D. [Signature], Clerk
By [Signature] Deputy

IN THE SUPERIOR COURT OF THE STATE OF CALIFORNIA IN AND FOR THE COUNTY OF RIVERSIDE

WESTERN MUNICIPAL WATER DISTRICT OF
RIVERSIDE COUNTY, a municipal water
district; CITY OF RIVERSIDE, a
municipal corporation; THE GAGE
CANAL COMPANY, a corporation; AGUA
MANSA WATER COMPANY, a corporation,
MEEKS & DALEY WATER COMPANY, a
corporation; RIVERSIDE HIGHLAND
WATER COMPANY, a corporation, and
THE REGENTS OF THE UNIVERSITY OF
CALIFORNIA,

Plaintiffs,

-vs-

(A) EAST SAN BERNARDINO COUNTY
WATER DISTRICT, et al.,

Defendants

78426
No. 784726
J. [Signature]
4/17/69

JUDGMENT

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APPENDIX A --	Map showing San Bernardino Basin Area, Colton Basin Area, and Riverside Basin Area situated within San Bernardino County; Riverside Basin Area within Riverside County; Bunker Hill Dike; Riverside Narrows; and
---------------	--

Boundaries of San Bernardino
Valley Municipal Water
District & Western Municipal
Water District of Riverside
County

APPENDIX B --

Extractions by Plaintiffs from San
Bernardino Basin Area.

APPENDIX C --

Exports for Use on Lands not
Tributary to Riverside Narrows

APPENDIX D --

Miscellaneous Data

RECITALS

(a) Complaint. The complaint in this action was filed by certain parties exporting water from the area defined herein as the San Bernardino Basin Area for use within Western, and sought a general adjudication of water rights.

(b) Orange County Water District Action. Subsequently the Orange County Water District filed an action for the adjudication of the water rights of substantially all water users in the area tributary to Prado Dam in the Santa Ana River Watershed. A decree of physical solution has been entered in such action whereby individual water users were dismissed, and San Bernardino Valley and Western assumed responsibility for the deliveries of certain flows at Riverside Narrows and Prado respectively.

(c) Physical Solution. The Judgment herein will further implement the physical solution in the Orange County Water District action, as well as determine the rights of the hereinafter named Plaintiffs to extract water from the San Bernardino Basin Area, and provide for replenishment of the area above Riverside Narrows. Such Judgment is fair and equitable, in the best interests of the parties, and in furtherance of the water policy of the State. San Bernardino Valley has the statutory power and resources to effectuate this Judgment and accordingly the other defendants may be dismissed.

(d) Stipulation. The parties named herein through their respective counsel have proposed and filed a written stipulation agreeing to the making and entry of this Judgment. By reason of such stipulation, and good cause appearing

1 therefor,

2
3 IT IS HEREBY ORDERED, ADJUDGED AND DECREED as follows:
4

5 I

6 ACTIVE PARTIES
7

8 (a) The parties to this Judgment are as follows:

9 (1) Plaintiff Western Municipal Water District
10 of Riverside County, a California municipal water district,
11 herein often called "Western", appearing and acting pursuant to
12 Section 71751 of the Water Code;

13 (2) Plaintiff City of Riverside, a municipal
14 corporation;

15 (3) Plaintiffs Riverside Highland Water
16 Company, Agua Mansa Water Company and Meeks & Daley Water
17 Company, each of which is a mutual water company and a
18 California corporation;

19 (4) Plaintiff The Regents of the University
20 of California, a California public corporation;

21 (5) Defendant San Bernardino Valley
22 Municipal Water District, a California municipal water district;
23 herein often called "San Bernardino Valley", appearing and
24 acting pursuant to Section 71751 of the Water Code;

25 (b) This Judgment shall inure to the benefit of, and
26 be binding upon, the successors and assigns of the parties.
27

28 II

29 DISMISSED PARTIES

30 All parties other than those named in the preceding
31 Paragraph I are dismissed without prejudice.
32

III
PRIOR JUDGMENTS

(a) The Judgment dated and entered on May 13, 1959, in that certain action filed in the Superior Court of the State of California in and for the County of San Bernardino, entitled and numbered "San Bernardino Valley Water Conservation District, a State Agency, Plaintiff v. Riverside Water Company, a corporation, et al., Defendants", No. 97031, is superseded effective January 1, 1971, and for so long as this Judgment remains in effect as to any party hereto that was a party to that action, and as to any party hereto that is a successor in interest to the rights determined in that action.

(b) The Judgment dated June 23, 1965, and entered on April 21, 1966, in that certain action filed in the Superior Court of the State of California in and for the County of San Bernardino entitled and numbered "San Bernardino Valley Water Conservation District, a State Agency, Plaintiff, v. Riverside Water Company, a corporation, et al., Defendants," No. 111614, is superseded effective January 1, 1971, and for so long as this Judgment remains in effect as to any party hereto that was a party to that action, and as to any party hereto that is a successor in interest to any rights determined in that action.

(c) As used in this Paragraph III only, "party" includes any person or entity which stipulates with the parties hereto to accept this Judgment.

IV
DEFINITIONS

The following ground water basins and tributary areas are situated within the Santa Ana River watershed upstream from Riverside Narrows and are tributary thereto, and their approximate locations and boundaries for purposes of this Judgment are shown upon the map attached hereto as Appendix "A"; San Bernardino Basin Area (the area above Bunker Hill Dike, but excluding certain mountainous regions and the Yucaipa, San Timoteo, Oak Glen and Beaumont Basins); Colton Basin Area, Riverside Basin Area within San Bernardino County, and Riverside Basin Area within Riverside County.

As used herein the following terms shall have the meanings herein set forth:

(a) Bunker Hill Dike - The San Jacinto Fault, located approximately as shown on Appendix "A", and forming the principal downstream boundary of the San Bernardino Basin Area.

(b) Riverside Narrows - That bedrock narrows in the Santa Ana River indicated on Appendix "A".

(c) Extractions - Any form of the verb or noun shall include pumping, diverting, taking or withdrawing water, either surface or subsurface, by any means whatsoever, except extractions for hydroelectric generation to the extent that such flows are returned to the stream, and except for diversions for replenishment.

(d) Natural Precipitation - Precipitation which falls naturally in the Santa Ana River watershed.

(e) Imported Water - Water brought into the Santa Ana River watershed from sources of origin outside such watershed.

(f) Replenishment - Artificial recharge of the ground water body achieved through the spreading or retention of water for the purpose of causing it to percolate and join the underlying ground water body, or injection of water into the ground water resources by means of wells; provided that as used with reference to any obligation of Western to replenish the Riverside Basin Area in Riverside County, the term replenishment shall include any water caused to be delivered by Western for which credit is received by San Bernardino Valley against its obligation under the Orange County Judgment to provide base flow at Riverside Narrows.

(g) - Safe Yield - Safe yield is that maximum average annual amount of water that could be extracted from the surface and subsurface water resources of an area over a period of time sufficiently long to represent or approximate long-time mean climatological conditions, with a given areal pattern of extractions, under a particular set of physical conditions or structures as such affect the net recharge to the ground water body, and with a given amount of usable underground storage capacity, without resulting in long-term, progressive lowering of ground water levels or other undesirable result. In determining the operational criteria to avoid such adverse results, consideration shall be given to maintenance of adequate ground water quality, subsurface outflow, costs of pumping, and other relevant factors.

The amount of safe yield is dependent in part upon the amount of water which can be stored in and used from the ground water reservoir over a period of normal water supply under a given set of conditions. Safe yield is thus related to factors which influence or control ground water recharge, and

1 to the amount of storage space available to carry over recharge
2 occurring in years of above average supply to years of
3 deficient supply. Recharge, in turn, depends on the available
4 surface water supply and the factors influencing the
5 percolation of that supply to the water table.

6 Safe yield shall be determined in part through the
7 evaluation of the average net groundwater recharge which would
8 occur if the culture of the safe yield year had existed over
9 a period of normal native supply.

10 (h) Natural Safe Yield - That portion of the safe
11 yield of the San Bernardino Basin Area which could be derived
12 solely from natural precipitation in the absence of imported
13 water and the return flows therefrom, and without
14 contributions from new conservation. If in the future any
15 natural runoff tributary to the San Bernardino Basin Area is
16 diverted away from that Basin Area so that it is not included
17 in the calculation of natural safe yield, any replacement made
18 thereof by San Bernardino Valley or entities within it from
19 imported water shall be included in such calculation.

20 (i) New Conservation - Any increase in
21 replenishment from natural precipitation which results from
22 operation of works and facilities not now in existence, other
23 than those works installed and operations which may be
24 initiated to offset losses caused by increased flood control
25 channelization.

26 (j) Year - A calendar year from January 1 through
27 December 31. The term "annual" shall refer to the same period
28 of time.

29 (k) Orange County Judgment - The final judgment
30 in Orange County Water District v. City of Chino, et al.,
31 Orange County Superior Court No. 117628, as it may from time to
32

1 time be modified.

2 (1) Return Flow - That portion of the water
3 applied for use in any particular ground water basin which
4 subsequently reaches the ground water body in that basin.

5 (m) Five Year Period - a period of five consecutive
6 years.

7 V

8 EXTRACTIONS FROM THE SAN BERNARDINO BASIN AREA

9
10 (a) For Use by Plaintiffs. The average annual
11 extractions from the San Bernardino Basin Area delivered for
12 use in each service area by each Plaintiff for the five year
13 period ending with 1963 are hereby determined to be as set forth
14 in Table B-1 of Appendix "B". The amount for each such
15 Plaintiff delivered for use in each service area as set forth
16 in Table B-1 shall be designated, for purposes of this Judgment,
17 as its "base right" for such service area.

18 (b) For Use by Others. The total actual average
19 annual extractions from the San Bernardino Basin Area by
20 entities other than Plaintiffs for use within San Bernardino
21 County for the five year period ending with 1963 are assumed
22 to be 165,407 acre feet; the correct figure shall be
23 determined by the Watermaster as herein provided.

24
25 VI

26 SAN BERNARDINO BASIN AREA RIGHTS AND REPLENISHMENT

27
28 (a) Determination of Natural Safe Yield. The
29 natural safe yield of the San Bernardino Basin Area shall be
30 computed by the Watermaster, reported to and determined
31 initially by supplemental order of this Court, and thereafter

1 shall be subject to the continuing jurisdiction thereof.

2 (b) Annual Adjusted Rights of Plaintiffs.

3 1. The annual "adjusted right" of each
4 Plaintiff to extract water from the San Bernardino
5 Basin Area for use in each service area designated
6 in Table B-1 shall be equal to the sum of the
7 following:

8 (a) its base right for such service area, until
9 the natural safe yield of the San Bernardino Basin
10 Area is determined, and thereafter its percentage
11 of such natural safe yield determined by the
12 methods used in Table B-2; and (b) an equal
13 percentage for each service area of any new
14 conservation, provided the conditions of the
15 subparagraph 2 below have been met.

16 2. In order that the annual adjusted
17 right of each such Plaintiff shall include its
18 same respective percentage of any new conservation,
19 such Plaintiff shall pay its proportionate share
20 of the costs thereof. Each Plaintiff shall have
21 the right to participate in new conservation projects,
22 under procedures to be determined by the Watermaster
23 for notice to Plaintiffs of the planned construction
24 of such projects. With respect to any new
25 conservation brought about by Federal installations,
26 the term "costs" as used herein shall refer to any
27 local share required to be paid in connection with
28 such project. Each Plaintiff shall make its
29 payment at times satisfactory to the constructing
30 agency, and new conservation shall be credited to
31 any participating Plaintiff as such conservation is
32 effected.

1 3. In any five year period, each
2 Plaintiff shall have the right to extract from the
3 San Bernardino Basin Area for use in each service
4 area designated in Table B-1 an amount of water
5 equal to five times its adjusted right for such
6 service area; provided, however, that extractions by
7 each Plaintiff in any year in any service area shall
8 not exceed such Plaintiff's adjusted right for that
9 service area by more than 30 percent.

10 4. If the natural safe yield of the
11 San Bernardino Basin Area has not been determined by
12 January 1, 1972, the initial determination thereof
13 shall be retroactive to that date and the rights
14 of the Plaintiffs, and the replenishment
15 obligation of San Bernardino Valley as hereinafter
16 set forth, shall be adjusted as of such date. Any
17 excess extractions by Plaintiffs shall be charged
18 against their respective adjusted rights over the
19 next five year period, or in the alternative,
20 Plaintiffs may pay to San Bernardino Valley the
21 full cost of any replenishment which it has pro-
22 vided as replenishment for such excess extractions.
23 Any obligation upon San Bernardino Valley to pro-
24 vide additional replenishment, by virtue of such
25 retroactive determination of natural safe yield,
26 may also be discharged over such next five year
27 period.

28 5. Plaintiffs and each of them and
29 their agents and assigns are enjoined from extracting
30 any more water from the San Bernardino Basin Area than
31 is permitted under this Judgment. Changes in place
32

1 of use of any such water from one service area to
2 another shall not be made without the prior
3 approval of Court upon a finding of compliance
4 with Paragraph XV(b) of this Judgment. So long
5 as San Bernardino Valley is in compliance with all
6 its obligations hereunder, and Plaintiffs are
7 allowed to extract the water provided for in this
8 Judgment, Plaintiffs are further enjoined from
9 bringing any action to limit the water extracted
10 from the San Bernardino Basin Area for use within
11 San Bernardino Valley.

12 6. Nothing in this Judgment shall
13 prevent future agreements between San Bernardino
14 Valley and Western under which additional
15 extractions may be made from the San Bernardino Basin
16 Area, subject to the availability of imported water
17 not required by San Bernardino Valley, and subject
18 to payment satisfactory to San Bernardino Valley
19 for replenishment required to compensate for such
20 additional extractions.

21
22 (c) San Bernardino Valley Replenishment. San
23 Bernardino Valley shall provide imported water for
24 replenishment of the San Bernardino Basin Area at least equal
25 to the amount by which extractions therefrom for use within
26 San Bernardino County exceed during any five year period the
27 sum of: (a) five times the total average annual extractions
28 determined under Paragraph V(b) hereof, adjusted as may be
29 required by the natural safe yield of the San Bernardino Basin
30 Area; and (b) any new conservation to which users within San
31 Bernardino Valley are entitled. Such replenishment shall be

1 supplied in the year following any five year period; provided
2 that during the first five year period, San Bernardino Valley
3 shall supply annual amounts on account of its obligations
4 hereunder, and such amounts shall be not less than fifty
5 percent of the gross amount of excess extractions in the
6 previous year.

7 1. Against its replenishment obligation
8 over any five year period San Bernardino Valley shall
9 receive credit for that portion of such excess
10 extractions that returns to the ground water of the
11 San Bernardino Basin Area.

12 2. San Bernardino Valley shall also
13 receive credit against any future replenishment
14 obligations for all replenishment which it provides
15 in excess of that required herein, and for any
16 amounts which may be extracted without replenishment
17 obligation, which in fact are not extracted.

18 (d) In this subparagraph (d), "person" and "entity"
19 mean only those persons and entities, and their successors
20 in interest, which have stipulated with the parties to this
21 Judgment within six months after its entry to accept this
22 Judgment.

23 San Bernardino Valley agrees that the base rights of
24 persons or entities other than Plaintiffs to extract water
25 from the San Bernardino Basin Area for use within San
26 Bernardino Valley will be determined by the average annual
27 quantity extracted by such person or entity during the five
28 year period ending with 1963. After the natural safe yield
29 of the San Bernardino Basin Area is determined hereunder, such
30
31
32

1 base rights will be adjusted to such natural safe yield; the
2 adjusted right of each such person or entity shall be that
3 percentage of natural safe yield as determined hereunder from
4 time to time which the unadjusted right of such person or
5 entity is of the amount determined under Paragraph V(b).

6 San Bernardino Valley further agrees that in the
7 event the right to extract water of any of such persons or
8 entities in the San Bernardino Basin Area is adjudicated and
9 legal restrictions placed on such extractions which prevent
10 extracting of water by said persons or entities in an amount
11 equal to their base rights, or after natural safe yield is
12 determined, their adjusted rights, San Bernardino Valley will
13 furnish to such persons or entities or recharge the ground
14 water resources in the area of extraction for their benefit
15 with imported water, without direct charge to such persons or
16 entities therefor, so that the base rights, or adjusted
17 rights, as the case may be, may be taken by the person or
18 entity.

19 Under the provisions hereof relating to furnishing
20 of such water by San Bernardino Valley, such persons or
21 entities shall be entitled to extract in addition to their
22 base rights or adjusted rights any quantities of water spread
23 for repumping in their area of extractions, which has been
24 delivered to them by a mutual water company under base rights
25 or adjusted base rights included by the Watermaster under the
26 provisions of Paragraph V (b) hereof. Extractions must be
27 made within three years of spreading to so qualify.
28
29
30
31
32

VII

WATER DISCHARGED ACROSS THE BUNKER HILL DIKE

San Bernardino Valley shall keep in force an agreement with the City of San Bernardino that the present annual quantity of municipal sewage effluent discharged across Bunker Hill Dike, assumed for all purposes herein to be 16,000 acre feet annually, shall be committed to the discharge of the downstream obligations imposed on San Bernardino Valley under this Judgment or under the Orange County Judgment, and that such effluent shall comply with the requirements of the Santa Ana River Basin Regional Water Quality Control Board in effect December 31, 1968.

VIII

EXTRACTIONS FROM COLTON BASIN AREA AND RIVERSIDE BASIN AREA IN SAN BERNARDINO COUNTY.

(a) The average annual extractions from the Colton Basin Area and that portion of the Riverside Basin Area within San Bernardino County, for use outside San Bernardino Valley, for the five year period ending with 1963 are assumed to be 3,349 acre feet and 20,191 acre feet, respectively; the correct figures shall be determined by the Watermaster as herein provided.

(b) Over any five year period, there may be extracted from each such Basin Area for use outside San Bernardino Valley, without replenishment obligation, an amount equal to five times such annual average for the Basin Area; provided, however, that if extractions in any year exceed such average by more than 20 percent, Western shall provide replenishment in the following year equal to the excess

1 extractions over such 20 percent peaking allowance.

2 (c). To the extent that extractions from each such
3 Basin Area for use outside San Bernardino Valley exceed the
4 amounts specified in the next preceding Paragraph (b), Western
5 shall provide replenishment. Except for any extractions in
6 excess of the 20 percent peaking allowance, such replenishment
7 shall be supplied in the year following any five year period,
8 and shall not be from reclaimed water produced within San
9 Bernardino Valley. Such replenishment shall also be of a
10 quality at least equal to the water extracted from the Basin
11 Area being recharged; provided, that water from the State Water
12 Project shall be deemed to be of acceptable quality.
13 Replenishment shall be supplied to the Basin Area from which
14 any excess extractions have occurred and in the vicinity of
15 the place of the excess extractions to the extent required to
16 preclude influence on the water level in the three wells below
17 designated; provided that discharge of imported water into the
18 Santa Ana River or Warm Creek from a connection on the State
19 Aqueduct near the confluence thereof, if released in accordance
20 with a schedule approved by the Watermaster to achieve
21 compliance with the objectives of this Judgment, shall satisfy
22 any obligation of Western to provide replenishment in the Colton
23 Basin Area, or that portion of the Riverside Basin Area in San
24 Bernardino County, or the Riverside Basin Area in Riverside
25 County.

26 (d) Extractions from the Colton Basin Area and that
27 portion of the Riverside Basin Area within San Bernardino County,
28 for use within San Bernardino Valley, shall not be limited.
29 However, except for any required replenishment by Western,
30 San Bernardino Valley shall provide the water to maintain the
31 static water levels in the area, as determined by wells numbered
32

1 1S 4W 21 Q3, 1S 4W 29 H1, and 1S 4W 29 Q1 at an average level
2 no lower than that which existed in the Fall season of 1963.
3 Such 1963 average water level is hereby determined to be 822.04
4 feet above sea level. In future years, the level shall be
5 computed by averaging the lowest static water levels in each
6 of the three wells occurring at or about the same time of the
7 year, provided that no measurements will be used which reflect
8 the undue influence of pumping in nearby wells, or in the
9 three wells, or pumping from the Riverside Basin in Riverside
10 County in excess of that determined pursuant to Paragraph IX(a)
11 hereof.

12 (e) Extractions by Plaintiffs from the Colton Basin
13 Area and the portion of the Riverside Basin Area in San
14 Bernardino County may be transferred to the San Bernardino
15 Basin Area if the level specified in Paragraph (d) above is
16 not maintained, but only to the extent necessary to restore
17 such 1963 average water level, provided that Western is not
18 in default in any of its replenishment obligations. San
19 Bernardino Valley shall be required to replenish the San
20 Bernardino Basin Area in an amount equal to any extractions so
21 transferred. San Bernardino Valley shall be relieved of
22 responsibility toward the maintenance of such 1963 average water
23 level to the extent that Plaintiffs have physical facilities
24 available to accommodate such transfers of extractions, and
25 insofar as such transfers can be legally accomplished.

26 (f) The Colton Basin Area and the portion of the
27 Riverside Basin Area in San Bernardino County constitute a major
28 source of water supply for lands and inhabitants in both San
29 Bernardino Valley and Western, and the parties hereto have a
30 mutual interest in the maintenance of water quality in these
31 Basin Areas and in the preservation of such supply. If
32

1 the water quality in such Areas, as monitored by the City of
2 Riverside wells along the river, falls below the Objectives set
3 therefor by the Santa Ana River Basin Regional Water Quality
4 Control Board, the Court shall have jurisdiction to modify the
5 obligations of San Bernardino Valley to include, in addition
6 to its obligation to maintain the average 1963 water level,
7 reasonable provisions for the maintenance of such water quality.

8 (g) The primary objectives of Paragraph VIII and
9 related provisions are to allow maximum flexibility to San
10 Bernardino Valley in the operation of a coordinated
11 replenishment and management program, both above and below
12 Bunker Hill Dike; to protect San Bernardino Valley against
13 increased extractions in the area between Bunker Hill Dike and
14 Riverside Narrows, which without adequate provision for
15 replenishment might adversely affect base flow at Riverside
16 Narrows, for which it is responsible under the Orange County
17 Judgment; and to protect the area as a major source of ground
18 water supply available to satisfy the historic extractions
19 therefrom for use within Western, without regard to the method
20 of operation which may be adopted by San Bernardino Valley for
21 the San Bernardino Basin Area, and without regard to the effect
22 of such operation upon the historic supply to the area below
23 Bunker Hill Dike.

24 If these provisions should prove either inequitable or
25 unworkable, the Court upon the application of any party hereto
26 shall retain jurisdiction to modify this Judgment so as to
27 regulate the area between Bunker Hill Dike and Riverside Narrows
28 on a safe yield basis; provided that under such method of
29 operation, (1) base rights shall be determined on the basis of
30 total average annual extractions for use within San Bernardino
31 Valley and Western, respectively, for the five year period ending
32

1 with 1963; (2) such base rights for use in both Districts shall
2 be subject to whatever adjustment may be required by the safe
3 yield of the area, and in the aggregate shall not be exceeded
4 unless replenishment therefor is provided; (3) in calculating
5 safe yield, the outflow from the area at Riverside Narrows shall
6 be determined insofar as practical by the base flow obligations
7 imposed on San Bernardino Valley under the Orange County
8 Judgment; and (4) San Bernardino Valley shall be required to
9 provide replenishment for any deficiency between the actual
10 outflow and the outflow obligation across Bunker Hill Dike as
11 established by safe yield analysis using the base period of
12 1934 through 1960.

13
14 IX

15 EXTRACTIONS FROM THE PORTION OF RIVERSIDE BASIN AREA
16 IN RIVERSIDE COUNTY WHICH IS TRIBUTARY TO RIVERSIDE NARROWS.

17 (a) The average annual extractions from the portion
18 of the Riverside Basin Area in Riverside County which is
19 tributary to Riverside Narrows, for use in Riverside County,
20 for the five year period ending with 1963 are assumed to be
21 30,044 acre feet; the correct figures shall be determined by
22 the Watermaster as herein provided.

23 (b) Over any five year period, there may be
24 extracted from such Basin Area, without replenishment
25 obligation, an amount equal to five times such annual average
26 for the Basin Area; provided, however, that if extractions in
27 any year exceed such average by more than 20 percent, Western
28 shall provide replenishment in the following year equal to the
29 excess extractions over such 20 percent peaking allowance.

30 (c) To the extent that extractions from such Basin
31 Area exceed the amounts specified in the next preceding
32

1 Paragraph (b), Western shall provide replenishment. Except
2 for any extractions in excess of the 20 percent peaking
3 allowance, such replenishment shall be supplied in the year
4 following any five year period, and shall be provided at or
5 above Riverside Narrows.

6 (d) Western shall also provide such replenishment
7 to offset any reduction in return flow now contributing to the
8 base flow at Riverside Narrows, which reduction in return
9 flow results from the conversion of agricultural uses of water
10 within Western to domestic or other uses connected to sewage
11 or waste disposal systems, the effluent from which is not
12 tributary to the rising water at Riverside Narrows.

13
14 X

15 REPLENISHMENT TO OFFSET NEW EXPORTS OF WATER TO AREAS
16 NOT TRIBUTARY TO RIVERSIDE NARROWS.

17 Certain average annual amounts of water extracted
18 from the San Bernardino Basin Area and the area downstream
19 therefrom to Riverside Narrows during the five year period
20 ending in 1963 have been exported for use outside of the area
21 tributary to Riverside Narrows and are assumed to be 50,667
22 acre feet annually as set forth in Table C-1 of Appendix "C";
23 the correct amount shall be determined by the Watermaster as
24 herein provided. Western shall be obligated to provide
25 replenishment at or above Riverside Narrows for any increase
26 over such exports by Western or entities within it from such
27 areas for use within areas not tributary to Riverside Narrows.
28 San Bernardino Valley shall be obligated to provide
29 replenishment for any increase over the exports from San
30 Bernardino Valley for use in any area not within Western nor
31 tributary to Riverside Narrows as set forth in Table C-2 of
32

1 Appendix. "C", such amounts being subject to correction by the
2 Watermaster, or for any exports from the San Bernardino Basin
3 Area for use in the Yucaipa, San Timoteo, Oak Glen and
4 Beaumont Basins.

5 XI

6 REPLENISHMENT CREDITS AND ADJUSTMENT FOR QUALITY

7
8 (a) All replenishment provided by Western under
9 Paragraph IX and all credits received against such
10 replenishment obligation shall be subject to the same adjustments
11 for water quality applicable to base flow at Riverside Narrows,
12 as set forth in the Orange County Judgment.

13 (b) Western shall receive credit against its
14 replenishment obligations incurred under this Judgment for the
15 following:

16 1. As against its replenishment obligation
17 under Paragraph VIII, any return flow to the Colton
18 Basin Area or the portion of the Riverside Basin Area
19 within San Bernardino County, respectively, resulting
20 from any excess extractions therefrom; and as
21 against its replenishment obligation under Paragraph
22 IX, any return flow to the portion of the Riverside
23 Basin Area in Riverside County, which contributes
24 to the base flow at Riverside Narrows, resulting
25 from any excess extractions therefrom, or from the
26 Riverside Basin Area in San Bernardino County, or
27 from the Colton Basin Area.

28 2. Subject to adjustment under
29 Paragraph (a) hereof, any increase over the present
30 amounts of sewage effluent discharged from
31

1 treatment plants within Riverside County which are
2 tributary to Riverside Narrows, and which results
3 from the use of imported water.

4 3. Any replenishment which may be pro-
5 vided in excess of that required; any amounts which
6 hereunder are allowed to be extracted from the
7 Colton and Riverside Basin Areas without
8 replenishment obligation by Western, and which in
9 fact are not extracted; any storm flows conserved
10 between Bunker Hill Dike and Riverside Narrows by
11 works financed solely by Western, or entities within
12 it, which would not otherwise contribute to base
13 flow at Riverside Narrows; and any return flow
14 from imported water used in Riverside County which
15 contributes to base flow at Riverside Narrows;
16 provided, however, that such use of the underground
17 storage capacity in each of the above situations
18 does not adversely affect San Bernardino Valley
19 in the discharge of its obligations at Riverside
20 Narrows under the Orange County Judgment, nor
21 interfere with the accomplishment by San Bernardino
22 Valley of the primary objectives of Paragraph VIII,
23 as stated in Subdivision (g).

24 (c) The replenishment obligations of Western under
25 this Judgment shall not apply during such times as amounts of
26 base flow at Riverside Narrows and the amounts of water stored
27 in the ground water resources below Bunker Hill Dike and
28 tributary to the maintenance of such flow are found by Order of
29 the Court to be sufficient to satisfy any obligation which
30 San Bernardino Valley may have under this Judgment, or under the
31

1 Orange County Judgment, and if the Court further finds by Order
2 that during such times any such increase in pumping, changes
3 in use or exports would not adversely affect San Bernardino
4 Valley in the future.

5 (d) The replenishment obligations of San Bernardino
6 Valley under Paragraph X of this Judgment for increase in
7 exports from the Colton and Riverside Basin Areas within San
8 Bernardino Valley below the Bunker Hill Dike shall not apply
9 during such times as the amounts of water in the ground water
10 resources of such area are found by Order of the Court to be
11 sufficient to satisfy the obligations which San Bernardino
12 Valley may have to Plaintiffs under this Judgment, and if the
13 Court further finds by Order that during such times any such
14 increases in exports would not adversely affect Plaintiffs in
15 the future.

16
17 XII

18 CONVEYANCE OF WATER BY SAN BERNARDINO VALLEY
19 TO RIVERSIDE NARROWS.

20 If San Bernardino Valley determines that it will
21 convey reclaimed sewage effluent, or other water, to or near
22 Riverside Narrows, to meet its obligations under this or the
23 Orange County Judgment, the City of Riverside shall make
24 available to San Bernardino Valley for that purpose any unused
25 capacity in the former Riverside Water Company canal, and the
26 Washington and Monroe Street storm drains, without cost except
27 for any alterations or capital improvements which may be
28 required, or any additional maintenance and operation costs which
29 may result. The use of those facilities shall be subject to the
30 requirements of the Santa Ana River Basin Regional Water Quality
31 Control Board and of the State Health Department, and compliance
32

1 therewith shall be San Bernardino Valley's responsibility.
2

3 XIII

4 WATERMASTER

5 (a) This Judgment and the instructions and
6 subsequent orders of this Court shall be administered and
7 enforced by a Watermaster. The parties hereto shall make such
8 measurements and furnish such information as the Watermaster
9 may reasonably require, and the Watermaster may verify such
10 measurements and information and obtain additional measurements
11 and information as the Watermaster may deem appropriate.

12 (b) The Watermaster shall consist of a committee
13 of two persons. San Bernardino Valley and Western shall each
14 have the right to nominate one of such persons. Each such
15 nomination shall be made in writing, served upon the other
16 parties to this Judgment, and filed in Court. Such person shall
17 be appointed by and serve at the pleasure of and until further
18 order of this Court. If either Western or San Bernardino Valley
19 shall at any time nominate a substitute appointee in place of
20 the last appointee to represent it, such appointee shall be
21 appointed by the Court in place of such last appointee.

22 (c) Appendix "D" to this Judgment contains some of
23 the data which have been used in preparation of this Judgment,
24 and shall be utilized by the Watermaster in connection with
25 any questions of interpretation.

26 (d) Each and every finding and determination of the
27 Watermaster shall be made in writing certified to be by
28 unanimous action of both members of the Watermaster committee.
29 In the event of failure or inability of such Watermaster
30 Committee to reach agreement, the Watermaster committee may
31 determine to submit the dispute to a third person to be selected
32

1 conditions equivalent to those existing during the five
2 calendar year period ending with 1963.

3 (h) The Watermaster shall as soon as practical
4 determine the correct figures for Paragraphs V(b), VI(b)1,
5 VIII(a), IX(a) and X, as the basis for an appropriate
6 supplemental order of this Court.
7

8 XIV

9 CONTINUING JURISDICTION OF THE COURT

10 (a) The Court hereby reserves continuing
11 jurisdiction of the subject matter and parties to this Judgment,
12 and upon application of any party, or upon its own motion, may
13 review and redetermine, among other things, the following
14 matters and any matters incident thereto:

15 1. The hydrologic condition of any one or
16 all of the separate basins described in this Judgment in order
17 to determine from time to time the safe yield of the San
18 Bernardino Basin Area.

19 2. The desirability of appointing a
20 different Watermaster or a permanent neutral member of the
21 Watermaster, or of changing or more clearly defining the duties
22 of the Watermaster.

23 3. The desirability of providing for increases
24 or decreases in the extraction of any particular party because
25 of emergency requirements or in order that such party may
26 secure its proportionate share of its rights as determined
27 herein.

28 4. The adjusted rights of the Plaintiffs as
29 required to comply with the provisions hereof with respect to
30 changes in the natural safe yield of the San Bernardino Basin
31

1 Area. If such changes occur, the Court shall adjudge that the
2 adjusted rights and replenishment obligations of each party
3 shall be changed proportionately to the respective base rights.

4 5. Conforming the obligations of San
5 Bernardino Valley under this Judgment to the terms of any new
6 judgment hereafter entered adjudicating the water rights within
7 San Bernardino Valley, if inconsistencies of the two judgments
8 impose hardship on San Bernardino Valley.

9 6. Adjusting the figures in Paragraphs V(b),
10 VI(b) 1, VIII(a) IX(a), and X, to conform to determination
11 by the Watermaster.

12 7. Credit allowed for return flow in the San
13 Bernardino Basin Area if water levels therein drop to the point
14 of causing undue hardship upon any party.

15 8. Other matters not herein specifically set
16 forth which might occur in the future and which would be
17 of benefit to the parties in the utilization of the surface and
18 ground water supply described in this Judgment, and not
19 inconsistent with the respective rights of the parties as herein
20 established and determined.

21 (b) Any party may apply to the Court under its
22 continuing jurisdiction for any appropriate modification of
23 this Judgment if its presently available sources of imported
24 water are exhausted and it is unable to obtain additional
25 supplies of imported water at a reasonable cost, or if there is
26 any substantial delay in the delivery of imported water through
27 the State Water Project.

SAVING CLAUSES

(a) Nothing in this Judgment precludes San Bernardino Valley, Western, or any other party from exercising such rights as it may have or obtain under law to spread, store underground and recapture imported water, provided that any such use of the underground storage capacity of the San Bernardino Basin Area by Western or any entity within it shall not interfere with any replenishment program of the Basin Area.

(b) Changes in the place and kind of water use, and in the transfer of rights to the use of water, may be made in the absence of injury to others or prejudice to the obligations of either San Bernardino Valley or Western under Judgment or the Orange County Judgment.

(c) If any Plaintiff shall desire to transfer all or any of its water rights to extract water within San Bernardino Valley to a person, firm, or corporation, public or private, who or which is not then bound by this Judgment, such Plaintiff shall as a condition to being discharged as hereinafter provided cause such transferee to appear in this action and file a valid and effective express assumption of the obligations imposed upon such Plaintiff under this Judgment as to such transferred water rights. Such appearance and assumption of obligation shall include the filing of a designation of the address to which shall be mailed all notices, requests, objections, reports and other papers permitted or required by the terms of this Judgment.

If any Plaintiff shall have transferred all of its said water rights and each transferee not theretofore bound by this Judgment as a Plaintiff shall have appeared in this action

1 and filed a valid and effective express assumption of the
2 obligations imposed upon such Plaintiff under this Judgment as
3 to such transferred water rights, such transferring Plaintiff
4 shall thereupon be discharged from all obligations hereunder.
5 If any Plaintiff shall cease to own any rights in and to the water
6 supply declared herein and shall have caused the appearance and
7 assumption provided for in the third preceding sentence with
8 respect to each voluntary transfer, then upon application to
9 this Court and after notice and hearing such Plaintiff shall
10 thereupon be relieved and discharged from all further
11 obligations hereunder. Any such discharge of any Plaintiff
12 hereunder shall not impair the aggregate rights of defendant
13 San Bernardino Valley or the responsibility hereunder of the
14 remaining Plaintiffs or any of the successors.

15 (d) Non-use of any right to take water as provided
16 herein shall not result in any loss of the right. San
17 Bernardino Valley does not guarantee any of the rights set out
18 herein for Western and the other Plaintiffs as against the
19 claims of third parties not bound hereby. If Western or the
20 other Plaintiffs herein should be prevented by acts of third
21 parties within San Bernardino County from extracting the
22 amounts of water allowed them by this Judgment, they shall have
23 the right to apply to this Court for any appropriate relief,
24 including vacation of this Judgment, in which latter case all
25 parties shall be restored to their status prior to this
26 Judgment insofar as possible.

27 (e) Any replenishment obligation imposed hereunder
28 on San Bernardino Valley may be deferred until imported water
29 first is available to San Bernardino Valley under its contract
30 with the California Department of Water Resources and the
31

1 obligation so accumulated may be discharged in five
2 approximately equal annual installments thereafter.

3 (F) No agreement has been reached concerning the
4 method by which the cost of providing replenishment will be
5 financed, and no provision of this Judgment, nor its failure
6 to contain any provision, shall be construed to reflect any
7 agreement relating to the taxation or assessment of extractions.

8
9 XVI

10 EFFECTIVE DATE

11
12 The provisions of Paragraphs III and V to XII of this
13 Judgment shall be in effect from and after January 1, 1971;
14 the remaining provisions are in effect immediately.

15
16 XVII

17 COSTS

18 No party shall recover its costs herein as against
19 any other party.

20
21 THE CLERK WILL ENTER THIS JUDGMENT FORTHWITH.

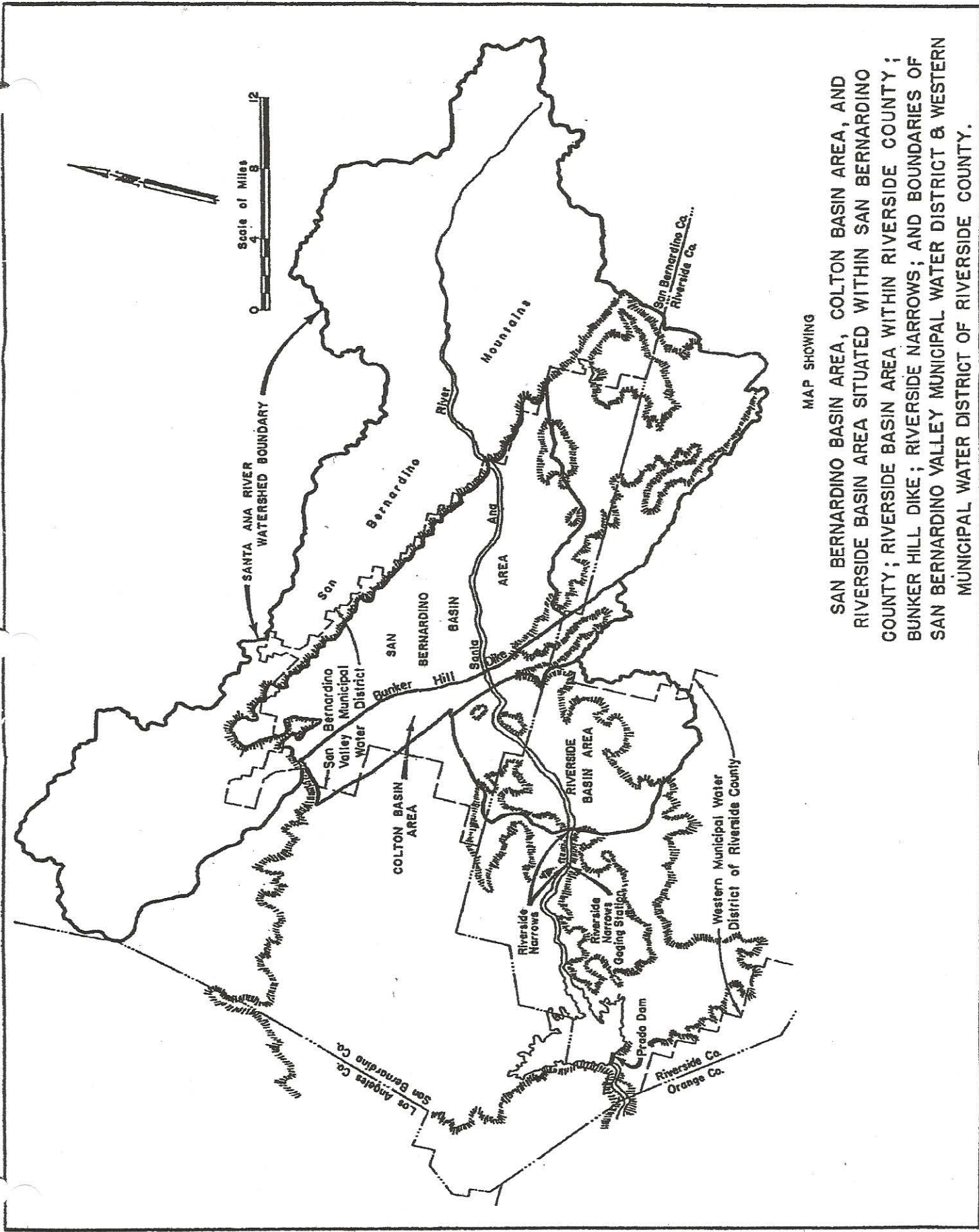
22 DATED: April 17, 1969

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25 ENTERED

26 APR 17 1969

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JUDGE OF THE SUPERIOR COURT

JUDGMENT BOOK 124 PG 42



MAP SHOWING

SAN BERNARDINO BASIN AREA, COLTON BASIN AREA, AND
 RIVERSIDE BASIN AREA SITUATED WITHIN SAN BERNARDINO
 COUNTY; RIVERSIDE BASIN AREA WITHIN RIVERSIDE COUNTY;
 BUNKER HILL DIKE; RIVERSIDE NARROWS; AND BOUNDARIES OF
 SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT & WESTERN
 MUNICIPAL WATER DISTRICT OF RIVERSIDE COUNTY.

Copy
OF
Certified Copy
OF
JUDGMENT

Rendered in the Superior Court of San Bernardino
County, California, on January 28th, 1924
in Action No. 17030 and Entitled:

"City of San Bernardino vs. Fontana
Water Co. et al."

Recorded in Book 829, Page 293 of Deeds, San
Bernardino County Records

Judgment

*In the Superior Court of the State of California
in and for the County of San Bernardino*

CITY OF SAN BERNARDINO,
a municipal corporation,

Plaintiff.

vs.

FONTANA WATER COMPANY, a corporation, FONTANA UNION WATER COMPANY, a corporation, FONTANA POWER COMPANY, a corporation, FONTANA FARMS COMPANY, a corporation, FONTANA COMPANY, a corporation, LYTLE CREEK WATER AND IMPROVEMENT COMPANY, a corporation, CITIZENS LAND AND WATER COMPANY OF BLOOMINGTON, a corporation, RIVERSIDE HIGHLAND WATER COMPANY,
a corporation, RANCHERIA WATER COMPANY, a corporation, MUTUAL LAND AND WATER COMPANY OF RIALTO, a corporation, TERRACE WATER COMPANY, a corporation, THE GAGE CANAL COMPANY, a corporation, RIVERSIDE TRUST COMPANY, LIMITED, a corporation, RIVERSIDE

No.
17030

ORANGE COMPANY, LIMITED, a corporation, CITY OF COLTON, a municipal corporation, GATE CITY ICE AND PRE-COOLING COMPANY, a corporation, COLTON CITY WATER COMPANY, a corporation, MEEKS AND DALEY WATER COMPANY, a corporation, FONTANA LAND COMPANY, a corporation, JOHN-HUB WATER COMPANY, a corporation, FONTANA DEVELOPMENT COMPANY, a corporation, NORTH COLTON WATER COMPANY, a corporation, LAWSON WELL COMPANY, a corporation, ALTA VISTA WATER COMPANY, a corporation, CLARA VISTA WATER COMPANY, a corporation, ORCHARD MUTUAL WATER COMPANY, a corporation, EAST RIVERSIDE WATER COMPANY, a corporation, JAMES BARNHILL, JOHN DOE, RICHARD ROE, SAM BLACK, JOE WHITE, SAM WHITE, CHARLES WHITE, TOM BROWN, SARAH BROWN, CHARLES BROWN, MARY BROWN, CHARLES LOW and JOHN LOW, and RIALTO DOMESTIC WATER COMPANY, a corporation,

Defendants.

WHEREAS there has been filed in this action a stipulation for judgment, duly executed by and on the part of the plaintiff above named and by and on the part of each and all of the following named defendants in this action, to-wit: Fontana Water Company, a corporation;

Fontana Union Water Company, a corporation; Fontana Power Company, a corporation, Fontana Farms Company, a corporation; Fontana Land Company, a corporation, Lytle Creek Water and Improvement Company, a corporation; Citizens Land and Water Company of Bloomington, a corporation; Riverside Highland Water Company, a corporation; Rancheria Water Company, a corporation; Mutual Land and Water Company of Rialto, a corporation; Terrace Water Company, a corporation; City of Colton, a municipal corporation; Rialto Domestic Water Company, a corporation; and James Barnhill (said Barnhill being erroneously sued herein, under the name of "W. W. Barnhill"),

NOW THEREFORE, by reason of said stipulation, and pursuant to the terms and provisions thereof,

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the Court as follows:

I.

This action is hereby dismissed as to each and all of the defendants, other than those above named as parties to said stipulation; and each and all cross-complaints or cross-actions, filed or pending by or between any of the parties to said stipulation, above named are dismissed.

II.

As between the plaintiff and each and all of the defendants, above named, as parties to said stipulation, and as to each and all of said defendants as between themselves, excepting as set forth in Paragraph XXI hereof, it is further

ADJUDGED AND DECREED, as follows:

III.

That an inch of water, as the term is used herein, shall mean such quantity of water, in continuous flow, as will supply one-fiftieth part of a cubic foot of water per second of time.

IV.

That from time immemorial, there has flowed, and now flows, in Lytle Creek Canyon, in San Bernardino County, California, a natural stream, known as "Lytle Creek," and there exists below the mouth of said canyon, a certain pressure pipe line, belonging to said Power Company, and the cement intake diverting water into said pipe line, is situate on the west side of said stream, very near the mouth of said canyon, and at a distance of about 1662 feet north of a point in the north boundary of the Muscupiabe Rancho, between stations 48 and 49 thereof, where said boundary intersects the center line of Riverside Avenue, as delineated on the map showing subdivision of the lands of the Semi-Tropic Land and Water Company, (said location of said intake having been sometimes heretofore erroneously designated in the pleadings herein and elsewhere, as being about 2375 feet north of said point of intersection), said Map being recorded in the office of the County Recorder of said County, in Book 6 of Maps, page 12 thereof; and said Power Company, for more than five years last past, has been and now is diverting from said creek, at said intake, by means of said pipe line, the waters of said Creek, flowing at said intake not exceeding 3000 inches, and is conducting said waters to the power house of said Power Company, situated on Farm Lot 66, designated on said Map, which waters,

upon being discharged from said Power House, belong to and are distributed to sundry parties, for their use, in proportion to their rights and interests therein.

V.

That in the San Bernardino Valley in said County, there exists, and lies below, and to the southeast of the mouth of said canyon, an area of land herein designated as "Lytle Creek Region" which, for the purposes of this decree, is defined and described as follows:

Commencing at a point in the center line of Mill Street, in the City of San Bernardino, in said County, situate 300 feet east of the center line of Mt. Vernon Avenue; thence north 400 feet; thence west to the center line of Mt. Vernon Avenue; thence running north along the center line of Mt. Vernon Avenue, to the intersection thereof with the center line of Fourth Street, (said street being identical with Foothill Boulevard); thence running west along the center line of Fourth Street, to a point where the center line of Muscott Street would intersect the center line of Muscott Avenue, if said Avenue were extended south; thence running north to the point of intersection of center line of Muscott Avenue with center line of Base Line; thence running west along center line of Base Line, to the southeast corner of Section 31, Township 1 North, Range 4 West, S. B. B. & M.; thence running north to the southwesterly boundary of the right of way of Atchison, Topeka and Santa Fe Railway Company (on which right of way are located the main railroad tracks of said Railroad Company, running from said City, through Cajon Pass); thence following along said southwesterly boundary of said right of way, to the point of intersection thereof, with the State Highway

at Verdemont; thence following said Highway to the point of intersection thereof, with the north line of Township 1 North, Range 5 West, San Bernardino Base and Meridian; thence running west, along the north line of Township 1 North, Range 5 West, San Bernardino Base and Meridian, to the northwest corner of said last mentioned township; thence running southeasterly to a point situate five feet east of the most easterly point of said intake of said pipe line of said Power Company, thence running southeasterly and following upon and along a line parallel with the east side of that certain cement canal, formerly known as the "Semi-Tropic Canal" (the intake of which canal is identical with said intake of said pipe line), and at all points five feet distant in a northeasterly direction from the east side of said Canal, to a point where said line would intersect the northwesterly line of Farm Lot 68, designated on said Map, if said northwesterly line of said Lot were projected southwest; thence along said northwesterly line of said Lot, to the foot of the ridge or bluff known as the "Rialto Bench," thence running southeasterly along the foot of said bluff, to a point where the foot of said bluff intersects the center line of said Mill Street; running thence east, along the center line of Mill Street, to the place of beginning.

VI.

That whenever there shall be discharge from said Power House, surplus water in excess of the quantity at the time required to satisfy the domestic and irrigation needs of the respective parties, entitled to receive and use water discharged from said Power House, all of such surplus water, so discharged, shall be used for

replenishing the underground water sources of said Lytle Creek Region, and to that end, shall be delivered by said Power Company, to and upon the wash of said Lytle Creek, by a cement conduit, at the highest point on the westerly margin of said wash, to which such water can reasonably be conducted by gravity flow from said Power House. Such replenishment work, as to the water so delivered upon said wash, shall be performed under the supervision and direction of the Committee hereinafter mentioned.

VII.

That all water flowing at said intake of said pipe line of said Power Company, between the 15th day of December, and the 15th day of the next succeeding month of April, of each year hereafter elapsing, shall be diverted and applied in the manner and in accordance with the priorities hereinafter set forth, to-wit:

First: To supply to said pipe line 2000 inches of water, or such larger quantity as may, at the time, be required and taken for immediate use for irrigation or domestic purposes, by the parties entitled to receive and use water discharged from said Power House, not exceeding the extent of their respective rights to such water.

Second: To supply additional water to said pipe line, to the extent of an aggregate amount of 3000 inches, (inclusive of the water specified in the next preceding subdivision "First"), except and provided that all or any part of such additional water shall be allowed to flow past said intake, into the wash or channel of said creek, for replenishing the underground water of said

thereafter, be turned into said pipe line, to the extent of said 3000 inches, instead of permitting a portion of such waters to flow past said intake, as aforesaid, and at said Power House, all surplus water, in excess of the quantity at the time required to meet the then requirements of the respective parties, entitled to receive and use water discharged from said Power House, shall be used in accordance with, and be subject to the provisions of Paragraph VI hereof.

VII-a

That no water shall ever be conducted by any party hereto, from that certain tract of land, situated in said San Bernardino County, described as follows:

Beginning at a point on the center line of hereinbefore mentioned Muscott Avenue, said point being situate one-half mile north of said Base Line; running thence south to the center line of said Fourth Street; running thence west, along said center line of Fourth Street, to the point of intersection thereof with the center line of the right of way, for electrical transmission line, of Southern Sierras Power Company; running thence northwesterly along said center line of said right of way, to a point where said center line of said right of way would intersect a line drawn due west from said point of beginning; thence running east to said point of beginning.

VIII.

That in order to conserve, in the most economical and effectual method, all waters which, under the provisions hereof, are from time to time to be used for replenishing the underground water sources of said Region, and also, for further replenishing the underground water

supply of said Region, to conserve, so far as may be reasonably practicable, the surplus, or flood waters, of streams or canyons tributary to said Region, a committee of five persons shall annually be appointed in the month of September of each year, which committee shall have full charge and direction of such water conservation work, and of all expenditures relating thereto, provided that, in case of disagreement or difference of opinion, the power of such committee shall be exercised by concurrence of a majority of its members. One of the members of said committee shall be so appointed by said Improvement Company; one by said Citizens Company; one by said Union Water Company; one by said Mutual Company, Rancheria Water Company, Riverside Company and said City of San Bernardino; and one by said Terrace Water Company, James Barnhill and City of Colton, and each of said members shall serve for one year, and until his successor is appointed and no member of said committee shall receive any compensation for serving thereon. Vacancies on said committee shall also be filled by appointment, to be made in like manner as aforesaid, by the party or parties which made the appointment of the member whose place so becomes vacant, and any person appointed to fill such vacancies shall fill out the unexpired term of his predecessor. Subject to the provisions hereof, said committee is hereby authorized to, from time to time, install any water conservation works, including the construction of dams, ditches, cuts, obstructions, and shafts on land in said Lytle Creek Wash, lying north of Fourth Street, (said street being identical with Foothill Boulevard) and also in and along any canyon, the waters of which are tributary to said Region, and take all other steps,

as in its uncontrolled discretion may be deemed expedient, in order to accomplish the underground conservation of such waters, provided that nothing herein shall be construed as authorizing said committee to trespass upon the property or rights of any party or to do any act that would infringe upon or impair or interfere with the right of any party to the use of any water to which such party shall be entitled. The expense of installing such system and maintaining the same, and carrying on said work of water conservation, shall be borne and paid, subject to the provisions hereof, by the Fontana Companies, Citizens Company, Riverside Company, Improvement Company, Mutual Company, Rancheria Water Company, Rialto Domestic Water Company, City of Colton, City of San Bernardino, Terrace Water Company, and James Barnhill, in the same proportions that the maximum quantity of water which each of said eleven parties (or group of parties), is allotted hereunder, the right to pump from said Region, bears to the aggregate maximum quantity of water which all of said parties are allotted hereunder the right to pump from said Region, provided that in the event of any other person or corporation joining in said conservation work, and paying a proportion of the expense thereof, the proportions of said expense to be borne by said parties, as hereinbefore set forth, shall be correspondingly and equitably reduced. Said committee, in the month of October of each year, and from time to time thereafter, as they may deem proper, shall make an estimate of the amount of money at the time required to be paid to said committee by said eleven parties hereto above named, in order to meet the expense for conservation work as aforesaid, at the

time being undertaken, or in contemplation by said committee.

Said committee shall thereupon present to each of said eleven parties, a bill for the proportionate amount so to be paid by such party, and if any party shall fail to pay such bill, within thirty days after it shall be so presented to such party, then said committee may bring, and it shall be its duty to bring, suit against such party for the amount of such bill, together with costs, including a reasonable attorneys' fee to be fixed by the court in which such suit shall be brought.

Any and all lands, owned by any of said specified parties who are to bear the expense of said conservation work as aforesaid, situate in said Lytle Creek Region, and lying north of said "Fourth Street," and not suitable for the growing of crops thereon, may be used at any and all times for spreading water thereon, and sinking and conserving water therein, by means of dams, obstructions, ditches, cuts and shafts, or by taking such other steps as may be deemed expedient by said committee, provided however, that such water conservation work shall not be done in such a manner as to injure or interfere with the use of any pumping plant, structure or other improvement, situate on any land where such work is performed.

IX.

That the maximum quantity of water which said plaintiff, City of San Bernardino, shall be, and is entitled to take from said Region, and use beyond the confines thereof, is such quantity of water, which when added to the water said plaintiff is entitled to have delivered to it, from said Lytle Creek, will amount in the

aggregate, (inclusive of said Lytle Creek Water) to 325 inches of water, and said plaintiff shall not be entitled to divert, at any time, from said Region, an amount of water in excess of said 325 inches. Of said quantity of water, 225 inches and no more may be pumped or diverted from that certain tract of land in said Region, comprising 10.09 acres, and forming a part of tract known as the "McKenzie Tract" (said tract of 10.09 acres being more particularly described in that certain deed running from William L. McKenzie, and others, to said plaintiff, and recorded in Book 109 of Deeds, at page 303 thereof, in the office of the County Recorder of said San Bernardino County), and none of said 225 inches shall ever be diverted by plaintiff from any other portion of said Region.

Said plaintiff is also the owner of the right to take, divert and use water from that portion of the San Bernardino Valley, lying east of the easterly boundary line of said Lytle Creek Region and east of a line beginning at the point of intersection of the State Highway with the south boundary line of Section 34, Township 2 North, Range 5 West, S. B. B. & M., and running thence to the northwest corner of said Section 34, and north of the center line of Mill Street, extended east to Sterling Avenue, and from streams tributary to said portion of said valley, situate in said portion of said valley, either from the surface flow of such streams, or from wells bored or to be bored in said portion of said valley, to such extent as may be reasonably necessary to supply the needs of said city and its inhabitants with water for supplying needs and purposes within said City. The right of said plaintiff to take water from the surface flow of Lytle Creek, to the extent of 100 inches, shall

not be affected or diminished by any claims of the Fontana Companies, or any of them to salvage water, by reason of any water of Lytle Creek being conducted or conveyed in or through pipe lines, or conduits of any kind.

X.

That, subject to the provisions of this paragraph, the maximum quantity of water which said Rialto Domestic Water Company shall be, and is entitled to take from said Region and use beyond the confines thereof, is such quantity of water which, when added to the water said Company is entitled to have delivered to it from said Lytle Creek, will amount in the aggregate (inclusive of said Lytle Creek Water) to 143.22 inches of water, and said Company shall not be entitled to divert, at any time from said Region, an amount of water in excess of said quantity hereinbefore in this paragraph specified. Of said quantity of water, 100 inches and no more may be pumped from said Region by said Company, provided that:

(a) None of said 100 inches of water shall be taken from any well or water development situate south of a line located parallel to, and situate three-fourths of a mile north of, Highland Avenue.

(b) The right of said Company to so pump and take said one hundred inches of water, shall be exercised only to such extent as shall be necessary to supply the City of Rialto, and the inhabitants thereof, with water for municipal and domestic uses and purposes, and for the irrigation of flowers, trees and lawns, within said City, and then only during such times as the 43.22 inches of water (now supplied by said Company to the

inhabitants of said City) is inadequate, or unsuitable for such purposes or uses.

(c) None of said 100 inches of water shall, at any time, be used outside of the now, or hereafter existing corporate limits of said City of Rialto, except to the extent that said 43.22 inches is now being used outside said City.

(d) Nothing in this Paragraph X contained shall be construed as vesting in said Company the right to take any portion of said 100 inches of water from any well or water development, without the consent of the owner of the land on which such well or water development is situated.

(e) The right to pump and take said 100 inches of water from said region shall be exercised only in the event such right shall be transferred to the City of Rialto.

(f) The water derived from said 100 inches water right, other than water supplied for fire hydrants, sewers, stores and buildings, not used for dwellings, shall not be furnished to the inhabitants of said City of Rialto, except through meters and when charged for at meter rates.

XI.

That the maximum quantity of water which said Improvement Company shall be, and is entitled to take from said Region, and use beyond the confines thereof, is, such quantity of water, which when added to the water said Company is entitled to have delivered to it from said Lytle Creek, will amount in the aggregate (inclusive of said Lytle Creek Water), to 1026.23 inches, and said Improvement Company shall not be en-

titled to divert at any time, from said Region, an amount of water in excess of said quantity in this paragraph hereinbefore specified. Of said quantity of water, only 700 inches may be pumped and diverted from said Region, by said Improvement Company, except during such periods when the quantity of water said Company is deriving from said Lytle Creek, is temporarily reduced to a quantity of less than 326.23 inches, during which periods additional water may be pumped and diverted from said Region by said Company, but only to an extent sufficient to supply such deficiency of said Lytle Creek Water, and only so long as such deficiency continues. Said pumping of said 700 inches of water by said Improvement Company shall be confined to the Ferguson Ranch, (said Ranch being the real property described in that certain deed, dated November 20th, 1908, and executed by Fontana Development Company, and recorded in the office of the County Recorder of said San Bernardino County, in Book 429 of Deeds, page 103 thereof), and said Company is not entitled to pump any water from any other part of said Region.

XII.

That the maximum quantity of water, which said Mutual Company shall be, and is entitled to take and conduct from said Region, and use beyond the confines thereof, is 125 inches of water, and said Mutual Company shall not be entitled to divert at any time, from said Region, an amount of water in excess of said 125 inches, all of which said quantity of water may be pumped by said Company from said Region, but all of said water shall be taken from wells, or water de-

velopments situate south of Highland Avenue, and north of Base Line.

XIII.

That the maximum quantity of water which said Riverside Company shall be, and is entitled to take from said Region, and use beyond the confines thereof, is 450 inches of water, and said Riverside Company shall not be entitled to divert at any time, from said Region, an amount of water in excess of said 450 inches, all of which said quantity of water may be pumped or diverted by said Company from said Region, but all of said water shall be taken from wells or water developments situate south of Highland Avenue, and north of Base Line.

XIV.

That the maximum quantity of water which said Rancheria Water Company shall be, and is entitled to take from said Region, and use beyond the confines thereof, is 120 inches of water, and said Company shall not be entitled to divert at any time from said Region, an amount of water in excess of 120 inches, all of which said quantity of water may be pumped or diverted by said Company from said Region, but all of said water shall be taken from wells or water developments, situate south of Highland Avenue, and north of said Fourth Street.

XV.

That the maximum quantity of water which said Citizens Company shall be, and is entitled to take from

said Region, and use beyond the confines thereof, is 1300 inches of water, and said Citizens Company shall not be entitled to divert, at any time, from said Region, an amount of water in excess of said 1300 inches, all of which said quantity of water may be pumped or diverted by said Company from said Region, provided that:

(a) No more than 200 inches shall ever be diverted or pumped by said Citizens Company, from that part of said Ferguson Ranch specified in that certain deed, executed by the Semi-Tropic Land and Water Company, to the Rialto Irrigation District, and recorded in the office of the County Recorder of said San Bernardino County, in Book 187 of Deeds, at page 213 thereof, and

(b) No more than 585 inches shall ever be diverted from said Region by said Citizens Company, from the northeast quarter of Section 36, Township 1 North, Range 5 West, S. B. B. & M., and

(c) No more than 150 inches shall ever be diverted or pumped by said Citizens Company, from that certain tract of land, situate in said Region, described as follows, to-wit:

Commencing at a point on the Base Line two thousand and fifty feet east of the southwest corner of Township 1 North, Range 4 West, San Bernardino Base and Meridian, and running thence due east 250 feet; thence north 14 degrees west, 344 feet; thence north 24 degrees 10 minutes West, 839.7 feet; thence north 39 degrees, 56 minutes west, 1096 feet; thence due west 674 feet; thence south 8 degrees, 20 minutes east, 500 feet; thence south 34 degrees, 15 minutes east, 1119 feet; thence south 58 degrees, 35 minutes east, 998-7/10 feet, to the place of beginning.

(d) None of the remaining quantity of said 1300 inches of water shall ever be diverted or pumped by said Citizens Company, from any lands in said Region, lying to the north of Base Line, but nothing herein contained shall be construed as obligating said Citizens Company, to divert any specific quantity of water from lands lying north of Base Line, to the end that any quantity of water may be diverted by said Company, from lands in said Region lying south of Base Line, so long as such quantity, when added to the quantity of water which said Company may be then contemporaneously taking from said Region, from lands north of Base Line, shall not exceed in the aggregate, said maximum quantity of 1300 inches of water; provided however, that in the event of said Company diverting at any time from said Region, a total quantity of water, exceeding 1100 inches, then all of such excess water shall be taken by said Company from lands in said Region lying south of a line drawn parallel to, and situate 2500 feet south of Base Line.

(e) Said Citizens Company shall never be entitled to divert any water from that certain tract of land situate in said Region, and described as follows:

Beginning at the southeast corner of the northeast quarter of the northeast quarter of Section 36, Township 1 North, Range 5 West, San Bernardino Base and Meridian; running thence west, 11.89 chains to a post, thence north 3 degrees 10 minutes west, 20 chains to a post on the north line of said Section, thence east 1 chain, thence south 32 degrees east, 8.32 chains to a post; thence south 2 degrees west, 2.06 chains to a post; thence south 54 degrees east, 4.59 chains to a post; thence south 83 degrees east, 4.40 chains to the east line

of said Section, thence south 8.48 chains to the place of beginning.

XVI.

The maximum quantity of water which James Barnhill (sued herein under the erroneous name of "W. W. Barnhill"), shall be, and is entitled to take from said Region, and use beyond the confines thereof, is seventy-five inches of water and said Barnhill shall not be entitled to divert, at any time, from said Region, an amount of water in excess of said 75 inches, all of which said quantity of water may be pumped by him from said Region, but all of said water shall be taken from wells, or water developments, situate south of the existing right of way of Atchison, Topeka and Santa Fe Railway Company (on which said right of way are located the railroad tracts extending from said City of San Bernardino, to the City of Rialto), and north of said Mill Street.

XVII.

That the maximum quantity of water, which said Terrace Water Company shall be, and is entitled to take from said Region, and use beyond the confines thereof, is 150 inches of water, and said Terrace Water Company shall not be entitled to divert, at any time, from said Region, an amount of water in excess of said 150 inches, but all of said water shall be taken from wells or water developments, situate south of said right of way of said Railway Company mentioned in the next preceding paragraph hereof, and north of said Mill Street. All of said water may be pumped.

XVIII.

That the maximum quantity of water which said City of Colton shall be, and is entitled to take from said

Region, and use beyond the confines thereof, is 600 inches of water, and said City shall not be entitled to divert, at any time, from said Region, an amount of water in excess of said 600 inches, all of which said quantity of water may be pumped by said City from said Region, but all of said water shall be taken from wells or water developments situate south of the last mentioned right of way of said Railway Company, and north of said Mill Street, and none of said water shall be used west of the highway, running approximately north and south, situate on the Rialto Bench, and known as "Rancho Avenue."

XIX.

As used herein, (1) the term "Fontana Companies," refers to Fontana Water Company, Fontana Union Water Company, Fontana Power Company, Fontana Farms Company, and Fontana Land Company; (2) the term "Citizens Company" refers to the Citizens Land and Water Company of Bloomington; (3) the term "Riverside Company" refers to the Riverside Highland Water Company; (4) the term "Improvement Company" refers to the Lytle Creek Water and Improvement Company; (5) the term "Mutual Company" refers to the Mutual Land and Water Company of Rialto; (6) the term "Power Company" refers to the Fontana Power Company, and (7) the term "Union Water Company" refers to Fontana Union Water Company.

XX.

That the maximum quantity of water which said Fontana Companies shall be, and are collectively entitled to take from the surface and sub-surface waters of said Lytle Creek, and from said Lytle Creek Canyon,

and its tributaries, and from said Lytle Creek Region, and conduct from said Region, and use beyond the confines thereof, shall amount to an aggregate quantity of 3480.78 inches, and said Fontana Companies shall never be entitled either collectively or separately to divert, beyond said confines, at any time from said water sources, or any of them, an amount of water in excess of said quantity in this paragraph hereinbefore specified. Of said 3480.78 inches of water, 1300 inches and no more may be pumped and diverted from said Region, by said Fontana Companies, provided that:

(a) No more than three hundred inches shall ever be pumped from the next hereinafter described tract of land, and said 300 inches shall be pumped from no other place; said tract being that certain tract, in said Region, described as follows:

That portion of the Southwest portion of the Muscupiabe Rancho, described as follows:

Beginning at station O of the north boundary of the Muscupiabe Rancho, which point is situate near the northeasterly bank of Lytle Creek, and near the mouth of Lytle Creek Canyon;

Thence following and along the northerly boundary of said Muscupiabe Ranch, South 67 degrees, 52 minutes East, thirty-five and fifty-three hundredths (35.53) chains to station 1 of said Muscupiabe Rancho; thence south 48 degrees, 14 minutes west, fifty-six and seventy-six hundredths (56.76) chains to the southwesterly corner of Farm Lot Ten (10) designated on the Map showing SUBDIVISION OF LANDS BELONGING TO SEMI-TROPIC LAND AND WATER COMPANY, recorded in Book 6 of Maps, at page 12, in the office of the County Recorder of said San Bernardino County;

Thence north 24 degrees, 43 minutes west, eighty-four and twenty-four hundredths (84.24) chains to a point in the north boundary of said Muscupiabe Rancho; said point being identical with the north corner of Farm Lot One (1), designated on said Map; thence, following and along the north boundary of the Muscupiabe Ranch, south fifty-one degrees, thirty minutes east, eleven and fifty-hundredths (11.50) chains to Station 49 thereof;

Thence, south 63 degrees, 00 minutes east, 40 chains to Station 0 of said Muscupiabe Rancho, the place of beginning.

Containing two hundred twelve and nineteen hundredths (212.19) acres.

(b) No more than 200 inches shall ever be pumped and diverted from said Region, from that certain tract of land in said Region, described as follows:

Commencing at a point on Line 2-3 of the northeasterly boundary of the southwest portion of the Rancho Muscupiabe, said point being north 45 degrees, 0 minutes west, one hundred thirty-seven and three-tenths chains from the southeast corner of Section 25, Township 1 North, Range 5 West, San Bernardino Base and Meridian; thence following the northeasterly boundary line of lands heretofore conveyed by the Fontana Development Company, to the Lytle Creek Water and Improvement Company, by deed recorded in Book 429 of Deeds, page 103, south 71 degrees, 13 minutes west, thirty-four and twenty-eight hundredths chains; thence still following said boundary north eighty-two degrees, fifty-nine minutes west, eighteen and seventy-three hundredths chains, for a point of beginning; thence from said point of beginning north fifty-four degrees,

fifteen minutes west, eighty-three and four hundredths chains; thence south 35 degrees, 45 minutes west, along the boundary line of the land conveyed by the Fontana Development Company to the Fontana Union Water Company, by deed recorded in Book 505 of Deeds, page 274, to the northwesterly corner of Lot 64, of Map showing subdivision of lands belonging to the Semi-Tropic Land and Water Company, as per plat recorded in Book 6 of Maps, page 12, of the records of said County, including the western portion of the Muscupiabe Grant, as per plat recorded in Book 7 of Maps, page 23, of the records of said County; thence from said northwesterly corner of said Lot 64, easterly and along the northeast line of Lots 64, 66, 68, 70, 72, 74 and 76, to the westerly point of land conveyed by the Fontana Development Company to the Lytle Creek Water and Improvement Company, by deed recorded in Book 429 of Deeds, page 103, et. seq.; thence following the north boundary of said tract south 82 degrees, 59 minutes east, twenty-six and twenty-seven hundredths chains, more or less, to point of beginning.

(c) None of the remaining 800 inches, or any portion of said 1300 inches of water, shall ever be pumped by said Fontana Companies, or any of them, from any portion of said Region lying to the south, or southeasterly of a line drawn from the southeast corner of Farm Lot 68, designated on said Map, to that certain point situate on the boundary of said Muscupiabe Rancho, designated or known as "Stake No. 3" (which said last mentioned point is situate very near to the northeast corner of Section 22, Township 1 North, Range 5 west, S. B. B. & M.); thence running due east to the southwesterly boundary of said right of way of

said Atchison, Topeka and Santa Fe Railway Company, hereinbefore mentioned, save and except that 150 inches of said 1300 inches of water may be pumped or diverted from lands in said Region lying below or to the south or southeasterly of said line.

(d) No water, pumped in said Region by any of said Fontana Companies, shall ever be conducted east of the west boundary of the lands in said Region now owned by the Muscoy Water Company, a corporation, provided however, that if any of the said Fontana Companies shall exercise the right to substitute for 150 inches of the surface waters of said Lytle Creek other water (said right being specifically provided for in that certain judgment rendered by the Superior Court of said San Bernardino County, in Action numbered 9383 in said Court, a copy of which judgment is recorded in the office of the County Recorder of said County, in Book 369 of Deeds at page 323 thereof, which said judgment is based upon that certain contract, dated October 26, 1891, wherein John L. Campbell granted to the Semi-Tropic Land and Water Company, the right to make such substitution of such water), then and in that event, such substituted water, not exceeding 150 inches, may be conducted anywhere.

(e) No water, except the 300 inches permitted to be pumped hereunder, from the tract of land described in Subdivision (a) of this Paragraph XX, shall ever be pumped and diverted by any of said Fontana Companies, from said Region, except and provided that whenever the quantity of water which said Fontana Companies are deriving from said Lytle Creek, at said intake, when added to any water that shall at the time be actually pumped from said tract (there shall be no

obligation to pump any water from said tract), shall amount in the aggregate to less than 2500 inches, then, so long as such deficiency shall continue, said Fontana Companies may take and divert from said Region from any or all of said other areas hereinbefore specified (but not more from any one of said areas than the maximum that they are entitled to take from such tract as hereinbefore stated) such quantity of water as may be necessary to make up such deficiency and maintain such aggregate supply of 2500 inches.

(f) Said quantity of 2500 inches and said maximum quantity of 3480.78 inches of water, hereinbefore referred to in this Paragraph XX, both relate exclusively to water which said Fontana Companies are entitled to take for their own use for irrigation and other beneficial purposes, beyond the confines of said Region.

XXI.

Nothing herein contained shall settle, bind or affect any question, matter or right existing between any of said Fontana Companies only, the purpose of this decree being to define and adjudicate the rights involved herein, of each and all of the respective parties hereto, other than said Fontana Companies, and also to adjudicate the collective rights of all of said Fontana Companies, constituting one group of defendants, without affecting any right which any of said Fontana Companies may have against any other of said Fontana Companies.

XXII.

That, except as provided in Paragraph XXIV hereof, no well shall ever be sunk hereafter by any party to

this action, within a distance of 200 feet of the north boundary line of said Ferguson Ranch, and it is further decreed that none of said Fontana Companies shall be entitled to hereafter pump any water in said Lytle Creek Canyon, at any time when such water is not needed for irrigation purposes.

XXIII.

Nothing contained herein shall be construed as permitting or shall permit, any water to be diverted from said Region, or from any water sources herein mentioned, at any time when the water so diverted is not reasonably needed for some useful or beneficial purpose, and it shall not be deemed a useful or beneficial purpose within the meaning of this paragraph, to use water:

(a) For irrigating, between the 15th day of November and the 15th day of March, of the next succeeding year, any grain or cereal crop, unless such crop is growing in an orchard;

(b) For saturating or causing water to sink in lands, lying outside of the said Region and canyon, for the purpose of accomplishing underground storing of water, or of adding to the water contained in such lands, nor for exercising unreasonable irrigation of crops or trees growing thereon.

XXIV.

That none of the parties to this action shall ever be entitled hereafter, to sink any well within a distance of 500 feet from any other well, owned, or operated by any other party to this action, except for substituting a new well in lieu of any now existing well, within said distance, for the sole purpose of maintaining, but not in-

creasing, the quantity of water now taken by such existing well, within such distance, provided however, that if it is desired to sink such new well within said distance, then such new well shall be always located as near as reasonably practicable to the existing old well for which it is to be substituted, as aforesaid.

XXV.

That each and all of the parties to this action, when taking any water from any water source mentioned herein, shall install, and at all times maintain respectively, at every point at which such water is so taken, such measuring box or weir or other measuring device, as will show readily and accurately the quantity of water at the time being taken at such point, which box and weir or other device, shall be installed and maintained as directed by, and to the satisfaction of said committee on water conservation, and shall at all times be open to inspection by an member of said committee, and by any party to this action.

XXVI.

Nothing herein contained shall be construed as vesting any new right in any of the parties hereto, to enter upon and take water from any water development or well situate on any property of any other party hereto, but the provisions of this paragraph shall not impair or affect any existing right of any party hereto.

XXVII.

That the rights of each and all of the said parties to pump water from said Region, as hereinbefore specified and defined are, as between said parties, equal and cor-

relative, without any priority or superiority of right, except as hereinbefore specifically stated or provided as to a particular interest or right, as between particular specified parties.

XXVIII.

That every provision of this decree in favor of, or applying to any party hereto, shall also apply to, and inure to the benefit of, and also bind each and all of the heirs, legal representatives, successors and assigns of such party.

XXIX.

That nothing herein decreed shall impair, abridge, or affect any existing right of any party hereto, which is now established by decree of court, or by other record, to have delivered, or to share in water from the surface flow of said Lytle Creek, except as may hereinbefore be otherwise specifically provided. Nothing herein decreed shall impair, abridge or affect any existing right of any party hereto to practice water conservation by sinking water in said Lytle Creek Canyon.

XXX.

That each and all of the parties hereto, and the agents and employees of each of them, are hereby perpetually restrained and enjoined from doing any act or thing in violation of the provisions of this decree.

XXXI.

None of the several maximum quantities of water which the parties hereto are respectively entitled to take from said Region, and use beyond the confines thereof, as herein specified, shall be increased or affected by the

future acquiring of additional lands in said Region by any of said parties; provided, however, anything to the contrary herein contained notwithstanding, should any party hereto hereafter purchase from any other party hereto the herein specified right to divert water of such other party, such purchasing party shall be entitled to exercise such purchased right of diverting water from said Region, in addition to the right allotted hereunder to such purchasing party.

XXXII.

No objection shall ever be made by any of said parties as to the interest or right of any party, as hereinbefore specified and defined, or as to the validity of this judgment in so specifying or defining such interest or right, on the ground that such interest or right, as so specified or defined, is not consistent with or warranted by the pleadings relative thereto; and if, in any case, it shall appear that any such interest or right, as so specified and defined, is in fact not consistent with or warranted by such pleading as actually filed, then such pleading shall be deemed and treated as amended, to conform to and sustain such interest and right as hereinbefore specified and defined.

XXXIII.

Each of said parties waives all right of appeal from this judgment, and no appeal shall be taken by any party or parties from this judgment or any part thereof.

XXXIV.

No party to this judgment shall be entitled to recover costs from any other party.

Dated: January 28th, 1924.

BENJAMIN F. WARMER,
Judge.

Endorsed:

Filed Jan. 28, 1924

HARRY L. ALLISON, Clerk

By M. L. ALDRIDGE, Deputy.

Docketed: Jan. 30, 1924, at 1:35 o'clock P. M.

Entered: Jan. 28, 1924, Book 41, Page 154.

HARRY L. ALLISON, Clerk

By R. M. SCHMIDT, Deputy Clerk

STATE OF CALIFORNIA, }
COUNTY OF SAN BERNARDINO, } ss.

I, HARRY L. ALLISON, County Clerk and ex-officio Clerk of the Superior Court, do hereby certify the foregoing to be a full, true and correct copy of the original on file in my office.

Witness my hand and seal of the Superior Court, this 14th day of Feb., 1924.

HARRY L. ALLISON, County Clerk.

By R. M. SCHMIDT, Deputy.

Recorded at request of Leonard, Surr & Hellyer, Feb. 16, 1924, at 28 minutes past 9.00 A. M., in Book 829, Page 293, of Deeds, Records San Bernardino County.

FULTON G. FERAUD, County Recorder.

By IRENE MCINERNY, Deputy Recorder.

Fee \$13.50.

Emergency Preparedness and Response Procedure

Philosophy

1. Concern for our employees and their families in case of a catastrophic emergency.
 - a) First Aid and CPR training for employees and their families.
 - b) Family education regarding preparing and responding to emergencies.
 - c) Making facilities available for temporary housing of employees and their families.
2. Communicate quality problems immediately.
3. Concern for retaining and supplying potable water to the Emergency Evacuation Center within our service area.
 - a) San Bernardino County designated Triage and Medical Evacuation Centers locations:

Terrace Hills Middle School

Terrace View Elementary School
 - b) American Red Cross Housing Evacuation Center Locations:

Grand Terrace Elementary School
4. Repair and/or rebuild domestic water system as rapidly as possible so all shareholders/customers have safe water.
5. In case of an earthquake or other catastrophic disaster, the following procedure is to be followed.

What event would trigger a response:

- a) An earthquake with a magnitude of 5.0 or greater occurring within a thirty-mile radius of our service area.
- b) When obvious structural damage has occurred in the area.
- c) Possible contamination in the water system.
- d) "Gut" reaction (instinct).

Who is to respond:

- a) All communications are to be handled by two-way radio, or mobile telephone.

- b) All responding personnel should call in by two-way radio or mobile telephone every twenty minutes to report their status.

General Manager (Don Hough):

- a) Check the 18" pipeline from the old office site to Vista Grande Way.
- b) If a leak is found north of the old office site, turn off the valve north of the old office site gate.
- c) If well RN #7 or RN #20 is running, open the three valves to the outfall line. (Exhibit 'A' Page #10)
- d) If the leak is North of Vista Grande Way notify the Distribution Superintendent.
- e) Turn off the 18" valve at Vista Grande Way or Brentwood Street. (Exhibit 'A' Page #10)
- f) If these valves are not accessible, turn off the 18" valve at Preston Street @ Palm Avenue and turn off the Preston Booster either from Booster Plant or from SCADA system.
- g) Proceed to the corporate office.
- h) Switch telephone from night answering by pressing the "Night Button" and then the #1, at workstation #2 (Theresa's desk) and check for messages.
- i) Establish two-way radio or mobile communication.
- j) Check SCADA System and Reservoir levels.
- k) If there are drastic level changes, notify the Distribution Superintendent.
- l) Establish communications with Grand Terrace E.O.C. via two-way radio and/or telephone (909) 824-6342 (Radio Room).
- m) Assess damage to corporate office and telephone answering system.
- n) Notify Grand Terrace E.O.C. if RHWCo's telephone system is out of order.

Distribution Superintendent (Craig Gudgeon):

- a) Assess damage on Mt. Vernon Avenue South to Center Street.
- b) East on Center Street to Zone 1 Reservoir, check Zone 1 drain line.
- c) Continue East on Center Street to Zone 2 Reservoir, check Zone 2 drain line.
- d) From Zone 2 Reservoir continue to Zone 2A, check Zone 2A drain line.
- e) Proceed South to Pigeon Pass Road.
- f) West on Pigeon Pass Road checking for leaks.
- g) North on Mt. Vernon Avenue to Spring Street.
- h) West on Spring Street to Well RN #21 and RN #22.
- i) Communicate findings to Rounds personal.
- j) Stop at Grand Terrace E.O.C. to verify communications with Riverside Highland Water Company.
- k) Proceed to corporate office.

Office Manager (Sharon Sanchez):

- a) Establish two-way radio and mobile communications.
- b) Go to corporate office.
- c) Coordinate communications with employees, public agencies, Grand Terrace E.O.C. and the news media.
- d) Begin to make emergency provisions available.

Rounds Person (Rick Monreal):

- a) Proceed south via Mt. Vernon Avenue and East on Van Buren Street to Oriole Avenue.
- b) If water is surfacing west of Oriole Avenue, turn off the 24" valve @ Oriole Avenue and Van Buren Street.

- c) Notify the Distribution Superintendent.
- d) If water is coming down Van Buren Street, proceed to Observation Drive.
- e) If water is coming down the drain slope, notify the General Manager.
- f) Turn off the 16" valve. (Riser in dirt east of Van Buren Street @ Observation Drive) (Exhibit 'C' Page #12).
- g) Notify the office to turn off Marx Booster from the SCADA command or laptop computer. If you can not contact the office or SCADA is down, proceed to Marx Booster; be cautious of downed power lines.
- h) Proceed to Marx 3 MG Reservoir.
- i) If there is a leak on the 8" Zone I main, turn off the 8" valve on the dirt driveway.
- j) Inspect Marx 1 MG and Marx 3 MG reservoirs for damage.
- k) Report findings to the office via two-way radio or mobile phone and wait for instructions.

In the event the Distribution Superintendent or General Manager is on vacation or otherwise unavailable, you are to assume their responsibilities.

Rounds Person (Frank Sanchez):

- a) Proceed to Brentwood Street via Preston Street.
- b) Check 18" line for leaks, if you find a leak turn off Preston Booster.
- c) Turn off 18" valve at Preston Street and Palm Avenue (Exhibit 'A' Page #10).
- d) Notify the Distribution Superintendent.
- e) Check Palm Reservoir for leaks.
- f) If you find a leak notify the Distribution Superintendent.
- g) Turn off the valve at the reservoir.
- h) Check Van Buren Reservoir site and assess the reservoirs condition.
- i) Check the position of the earthquake valve.

- j) Report findings to the Distribution Superintendent and to the office.
- k) Wait for instructions.

Rounds Person (Kevin Uller):

- a) Open blow off on 24" Lytle Creek Transmission main south of the Santa Ana River.
- b) Call the office to have the Lytle Creek Wells turned off.
- c) Shut off the 20" valve south of the river at the Southern Pacific Railroad track (Exhibit 'B' Page #11)
- d) Check the 24" line to the Linda Vista #3 well and shut it off if a leak is found.
- e) Shut off the 24" valve on Vivienda Avenue west of the I-215 Freeway (Exhibit 'B' Page #11).
- f) Notify the Distribution Superintendent of any leaks.
- g) Check LaCrosse Avenue for leaks.
- h) Proceed to Vivienda Avenue @ I-215 Freeway - East side.
- i) Evaluate the 24" main leaks via Barton Road and Palm Avenue to Preston Street.
- j) Notify the Distribution Superintendent and office of the situation.
- k) Wait for instructions.

Chris Tomer Back-up Rounds Person:

In the event a Rounds Person is on vacation, or is otherwise unavailable, you are to fill in and handle the responsibilities of the missing Rounds Person.

All other Personnel:

- a) The rest of the field and office personnel are to report to the corporate office to be dispatched as needed.
- b) If you are unable to report to be dispatched, please contact the corporate office, either by two-way radio or telephone, as soon as possible.
- c) If a key person is unable to report, the Distribution Superintendent will handle their tasks or assign them to other personnel.

- d) All personnel should have their orange magnetic "Emergency Response Team) placard placed on the front or driver side of their vehicle, regardless whether it is a company vehicle or a personal vehicle.
- e) All personnel should have their company identification cards with them and be able to show it, if necessary, to other agency's Emergency Response officials.
- f) All personnel are to have all telephone numbers for the corporate office. The main number is (909) 825-4128, is connected to the answering machine. The other numbers are:
 - 1. (909) 825-4142
 - 2. (909) 825-4147
 - 3. (909) 825-4181 (after hours line)
- g) All personnel are to have all mobile telephone numbers available in case you are unable to contact the corporate office.
 - 1. (909) 578-6154 Don Hough, General Manager
 - 2. (909) 578-6144 Craig Gudgeon, Distribution Superintendent
 - 3. (909) 578-6138 Sharon Sanchez, Office Manager
 - 4. (909) 578-6143 Frank Sanchez, Rounds Person
 - 5. (909) 578-6145 Rick Monreal, Rounds Person
 - 6. (909) 578-6141 Kevin Uller, Rounds Person
 - 7. (909) 578-6155 Judy Watkins, Quality Clerk
 - 8. (909) 578-6159 Jennifer Elsass, Billing & Purchasing Clerk
 - 9. (909) 578-6196 Amy Zandbergen, Customer Service
 - 10. (909) 578-6142 Chris Tomer, Field Service Representative
 - 11. (909) 578-6151 Jeff Jeffers, Field Service Representative
- h) All personnel should investigate and be familiar with possible alternative routes from their home to the corporate office.

How to secure home/families prior to coming to office:

You and your family should read and become familiar with the Earthquake Preparedness Handbook that was given to you. If your home is damaged and you cannot leave your family there, or if your family feels insecure about you leaving them, please bring them to the corporate yard with you. We can provide them with food, shelter, and first aid. We even have toys for the kids.

If water is not available to the Emergency Evacuation Centers, a 300-gallon emergency water tank can be filled and dispatched to the affected Center.

Terrorism and Vandalism

If contamination is suspected at a reservoir site: Isolate the reservoir from the distribution system immediately and notify the General Manager and Distribution Superintendent.

General Manager:

Notify the proper authorities such as local Police, Fire Department and Department of Public Health. Make arrangements with Department of Public Health to pick up the Emergency Water Quality Sampling Kit (Exhibit D page #13). Department of Public Health will determine if the Federal Bureau of Investigation (FBI) should be notified and the Fire Department will determine if Hazmat should be notified. Department of Public Health and the Fire Department will determine whether Riverside Highland Water Company personnel or a Hazmat team will pull the samples depending on the severity of the threat.

Emergency Contacts:

Grand Terrace Sheriff Department	(909) 824-0680 or (909) 387-8313
Grand Terrace Fire Department	(909) 825-0221
Riverside County Sheriff	(951) 776-1099 (951) 684-0911 (911) for both
Riverside County Police Department	(951) 776-1099

Department of Public Health:

Sean McCarthy, Senior Sanitary Engineer	(909) 388-2602 (909) 922-5634 (cell)
Jaydeb Das, Associate Sanitary Engineer	(909) 383-4320 (909) 598-4211 (cell)
Eric Zuniga, Associate Sanitary Engineer	(909) 723-3030 (650) 387-5428 (cell)
Andres Aguirre, Associate Sanitary Engineer	(909) 383-4308 (909) 362-1589 (cell)
Jonathan Weininger, Sanitary Engineer	(909) 383-5184 (831) 254-5535 (cell)
Brenda Romero, Sanitary Engineer	(909) 383-6029 (661) 809-6274 (cell)
Faraz Asad, Sanitary Engineer	(909) 383-4312 (909) 996-0750 (cell)
San Bernardino County Communications Center	(909) 356-3805
San Bernardino County Hazmat	(800) 338-6942

Dealing with the Media & Public

If the Media or the public approaches you during an emergency such as a natural disaster, terrorist attack or vandalism refer them to management. The only thing you can say is we have been on site for however long you have been there, we are working on fixing the problem and do not have all the information. As soon as we know more management will be issuing a statement.

The General Manager and/or the Office Manager will handle all calls from Emergency Officials and the media.

Office Personnel:

The office personnel will arrange for any materials, equipment, contractors, etc. They will also contact Watering Angels, telephone (909) 783-2626 or cell (909) 503-5167 to mobilize their portable water trucks to the Emergency Evacuation Centers to supplement Riverside Highland Water Company supplies if available.

GETS/WPS Card:

GETS provides National Security and Emergency Preparedness (NS/EP) users with a dependable and flexible switched voice and voice-band data communications service for use during periods of emergency or crisis. GETS uses existing features and services of the public switched telephone network (PSTN) with NS/EP enhancements.

GETS should only be used when the telephone network is congested and normal call do not complete. GETS may only be used by authorized NS/EP users during the performance of their duties when responding to national security events or natural disasters. Additionally, GETS may only be used on a call-by-call basis and may not be programmed into auto dialers to conduct mass notifications.

Periodic GETS test calls are encouraged, however, to ensure familiarization with GETS operation and to ensure GETS works from all phone that might be used in an emergency. See (Exhibit #E page #24) for instructions on how to use the GETS Card.

On this _____ day of _____, 2011, the Riverside Highland Water Company Board of Directors approved this Emergency Preparedness and Response Procedure.

William J. McKeever, Board President

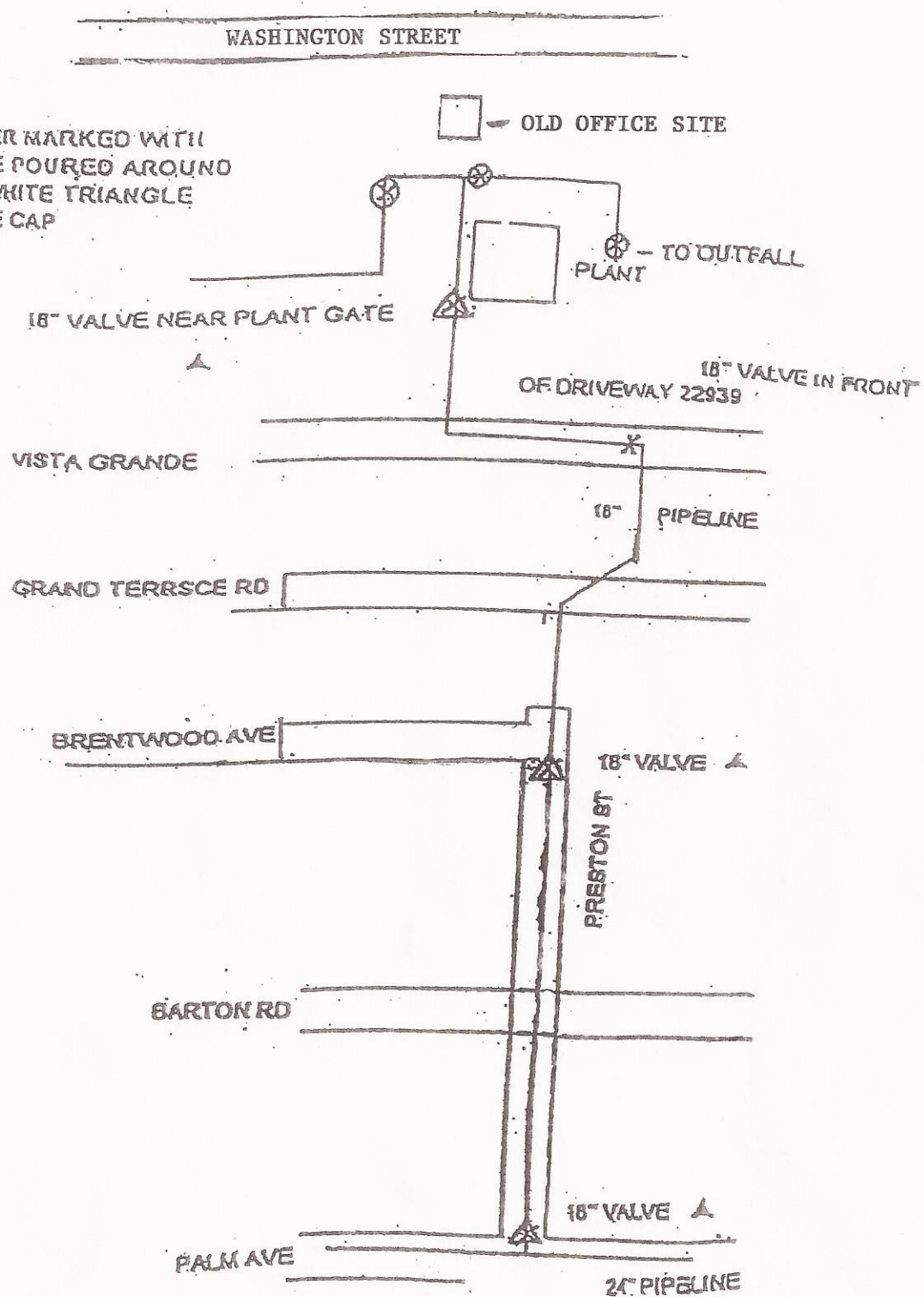
Anthony Petta, Board Secretary

Appendages

1. Critical Valve Locations – Exhibit A, B, & C
2. Contractors and Suppliers Emergency Telephone Numbers
3. “Mutual Aid” Water Companies Information
4. CDHS Emergency Water Quality Sampling Kit – Exhibit D
5. Inventory of Supplies & their Location
6. Instructions on how to use the GETS Card

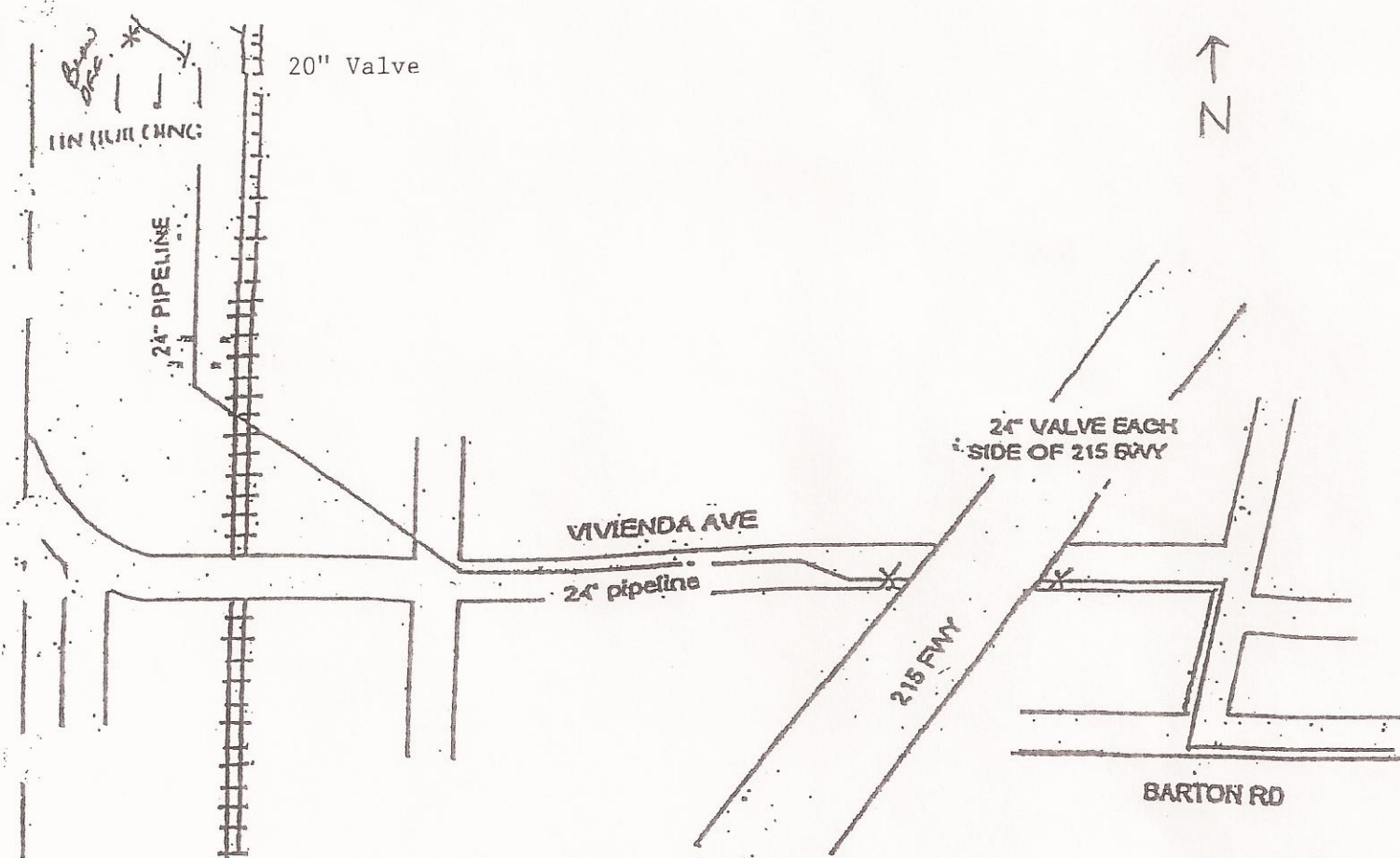
Emergency Response Valves - 18" Pipeline

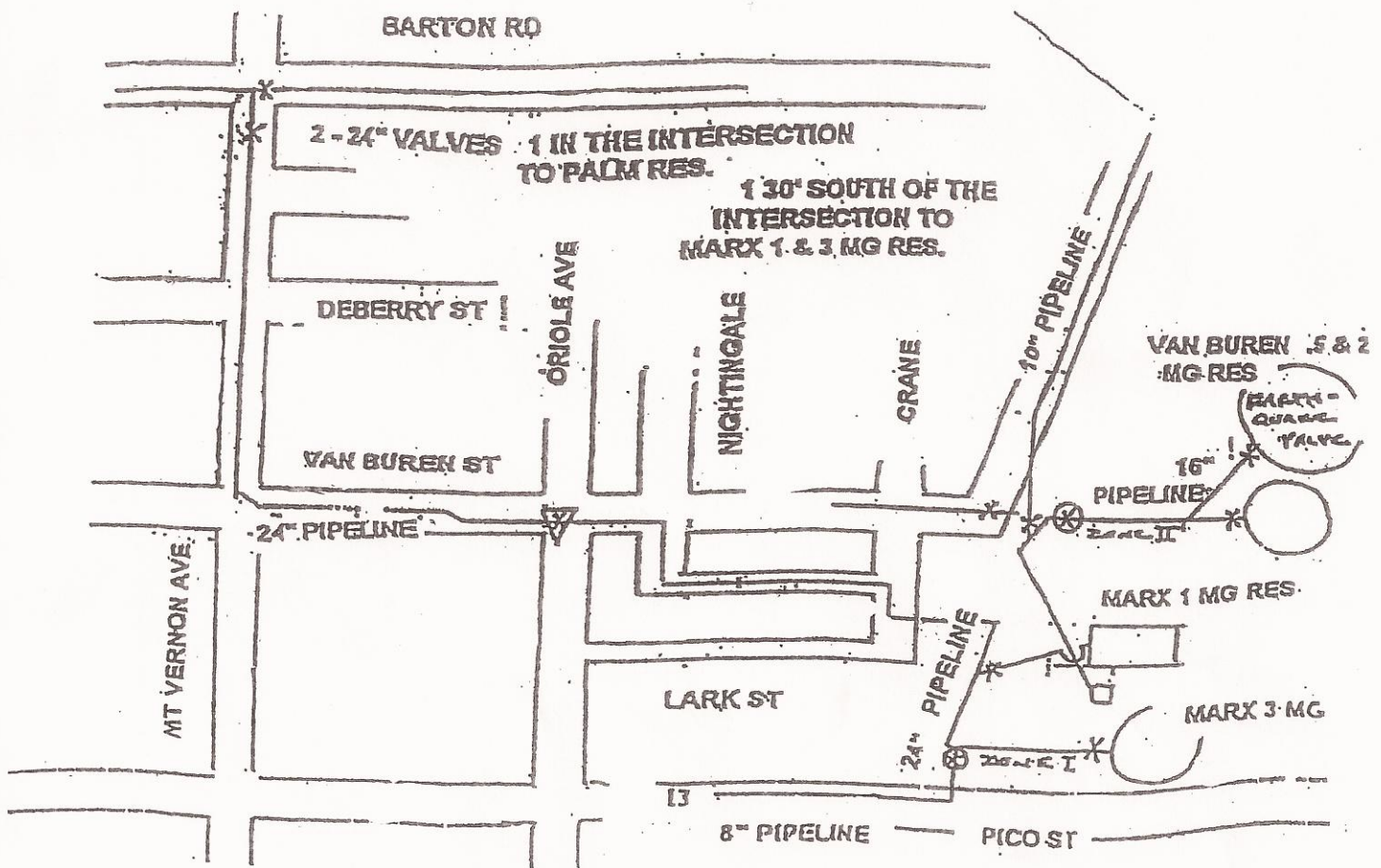
ALL VALVES ARE EITHER MARKED WITH
A CONCRETE TRIANGLE POURED AROUND
THE VALVE CAP OR A WHITE TRIANGLE
PAINTED ON THE VALVE CAP



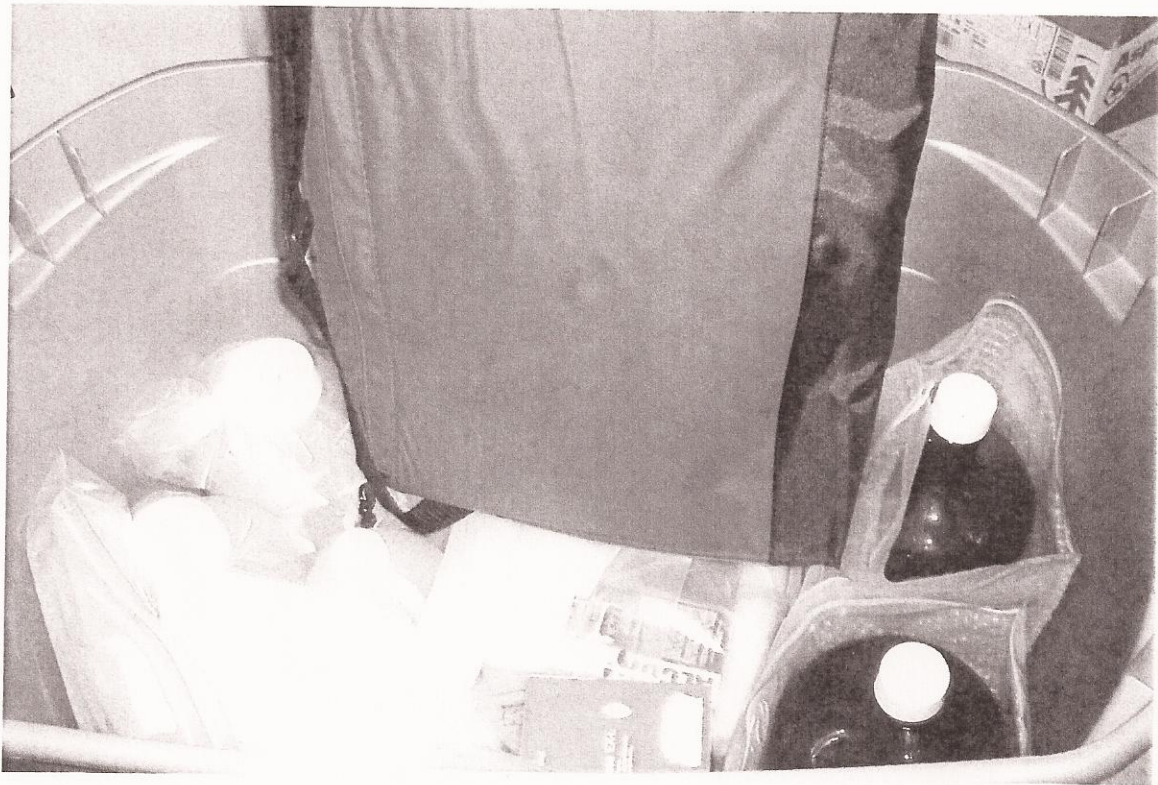
Emergency Response Valves - 24" Pipeline

ALL VALVES ARE EITHER MARKED WITH
A CONCRETE TRIANGLE POURED AROUND
THE VALVE CAP OR A WHITE TRIANGLE
PAINTED ON THE VALVE CAP





CDPH Emergency Water Quality Sampling Kit



Emergency Preparedness and
Response Procedure

Contractors' and Suppliers' Emergency Contacts and Telephone Numbers

T.A. Rivard, Inc.
8884 Jurupa Rd., Riverside, CA
Office - (951) 360-8596
Fax - (951) 360-8637

Merlin Johnson
Merlin Johnson Construction
1215 Sapphire St.
Mentone, CA 92359
Office - (909) 794-7702
Fax - (909) 794-3653
(909) 322-6061 Merlin Johnson (cell)

Chuck Pfister
C.P. Construction Co.
105 S. Loma Place
Upland, CA 91786
Office - (909) 981-1091
Fax - (909) 981-6704
(909) 266-6595 - Mike Pfister (cell)
(909) 985-8689 - Mike Pfister (home)
(909) 266-6599 - John Blough (cell)
(909) 804-2055 - John Blough (home)
(909) 266-6585 - Chuck Pfister (cell)
(909) 946-6910 - Chuck Pfister (home)

D.M. Sanborn Pipeline
802 E. 29th Street, San Bernardino
Office - (909) 886-3334

Contractors' and Suppliers' Emergency Contacts and Telephone Numbers

El-Co Contractors
1995 Nolen Street,
San Bernardino, CA 92407
Office - (909) 887-2610
Fax - 909- 880-9091
(909) 880-2088 John (home)
(909)-322-4635 John (cell)
(909) 887-8234 Cory (home)
(909)-322-4639 Cory (cell)

Inland Water Works
P.O Box 2246
2468 Miramonte Drive,
San Bernardino, CA 92405
Office - (909) 883-8941
Fax - (909) 881-4041
(909) 362-7734 Greg (cell)
(909) 965-2575 Jeff (cell)
(909) 886-5493 Mike (Emergency Contact)

L.G. Supply Company
1441 W. Pomona Rd. #23
Corona, CA 92882
Office - (951) 734-1540
Fax - (951) 734-3230
(951) 734-2842 Harold Cossette (home)
(951) 640-4316 Harold Cossette (cell)

Rental Service Corporation
RSC Equipment Rental
520 E. La Cadena, Riverside, CA 92507
Office - (951) 276-9000
Fax - (951) 276-0755
(951) 830-7926 Paul Buchanan (cell)

B & G Equipment Rental
500 E. Valley Blvd.
Colton, CA 92324
Office - (909) 422-0288
Fax - (909) 422-0398
(909) 528-2888 Fred Lohman (cell)

Mutual Aid Water Companies

WARN (Water Agency Response Network)
The Metropolitan Water District of Southern California
Katy Gibson Program Mngr. (626) 844-5654
George Del Toro Unit Mngr. (626) 844-5601
EVWD: Gary Sturdivan (909) 806-4087

City of Loma Linda Water Department
Corporate Yard:
26000 Barton Rd.
Loma Linda, CA 92354
(909) 799-4410
After hours: (909) 799-2800
Utilities Supervisor Russ Handy - (909) 799-4420

City of Rialto Water Department:
Maintenance Center:
246 S Willow Ave
Rialto, CA 92376
24 hr. Emergency (909) 820-2608

East Valley Water District:
Corporate Yard:
3654 E. Highland Ave. #18
Highland, CA 92346
(909) 889-9501 or (909) 885-4900
Fax – (909) 888-6741
Robert Martin, Manager

Yucaipa Valley Water District:
Corporate Yard:
12770 Second St.
Yucaipa, CA 92399
(909) 797-5117
(909) 795-2491 - Treatment Plant
Joe Zoba, General Manager

Mutual Aid Water Companies

San Bernardino City Water Department:

Corporate Yard:

195-D Second Street

Office: 300 N. "D" Street

San Bernardino, CA 92418

(909) 384-5141 or

(909) 384-5292

Stacy Aldstadt, General Manager (909) 384-5091

Mathew Litchfield, Director of Water Utilities:

(909) 384-5107

West Valley Water District:

Corporate Yard:

855 West Baseline

Rialto, CA 92376

(909) 875-1804 Fax – (909) 875-1849

Butch Araiz, General Manager

(909) 874-5125 (home)

(909) 644-2417 (cell)

City of Colton Water Department:

Corporate Yard:

160 S. Tenth St.

Colton, CA 92324

(909) 370-6131

James Maxwell (909) 772-7886

After Hours (909) 370-5000 (Police Dept.)

Gage Canal:

Corporate Yard:

7452 Dufferin Ave

Riverside, CA 92504

(951) 780-1333

Rick Zeman, Production Manager

Direct line: (909) 478-3889

After hours: (951) 505-5483 (cell)

Supplies Inventory – March 2008
Black Emergency Bag in Corporate Office Vault

Item	Quantity	Batteries	Replacement Date
Cellular Phone, plugs into car lighter	1		N/A
Portable Public Address System Power Horn	1	8 'AA'	Batteries 12/2012
Flashlight	1	4 'D'	Batteries 3/2016
Pocket-size AM Radio	1	1 9-V	Battery 3/2012
Pocket Knife	1		
Wind/Water-proof Matches	2 boxes		
Utility Pliers	1 pair		
Utility Screwdriver	1		
8'x 10' Tarp	1		
Camp-type shovel	1		
12" Adjustable Wrench	1		
100-hour Emergency Candles	2		
Earthquake Preparedness Book	1		
Camp-type Eating Utensils	4 sets		
Camp-type Combo Skillet/Plate	1		
Toilet Paper	2 rolls		
First Aid Bag (Inventory on next page)	1		
Glow Stick Lights	10		

Supplies Inventory – March 2008
Black Emergency Bag in Corporate Office Vault
Medical First Aid Bag

Item	Quantity	Batteries	Replacement Date
Equate Stomach Relief Tab	1 Box		
Ibuprofen Tabs	1 Box		
Aspirin Tabs	1 Box		
Antibiotic Ointment	1		
Eye Drops	1		8/2012
Sanitary Napkins	12		
Procedure Masks	9		
Plastic Gloves	7 lg. pair - 7 med. Pair		
4 ½" x 4 yds Sterile Gauze	4 rolls		
3" x 5 yds Sterile Gauze	3 rolls		
5" x 9" Sterile Pads	5 each		
4" x 4" Sterile Pads	20 each		
10" x 30" Multi-Trauma Compresses	2 each		
Instant Ice Pack	2 each		
Eye Dressing	8 each		
Burn Spray	13 oz can		
Liquid Soap	1		

Supplies Inventory – March 2008
Black Emergency Bag in Corporate Office Vault - Medical First Aid Bag

Item	Quantity	Batteries	Replacement Date
Antibacterial Skin Cleanser	1-4 oz bottle		
Toothache Medicine	1-1 oz bottle		
Ammonia Inhalants	10 each		
Alcohol Wipes	16 each		
Flashlight with Pupil Gauge	1		
Tweezers			
Thermometer	1 each		
Tape Scissors	1 pair		
Bite Sticks	2 each		
Sterile Emergency Blanket	1 Infant		
54" x 80"			
Disposable Emergency Blanket	1		
56" x 84"			
Emergency Thermal Blankets	3		
Emergency Drinking Water	1		
First Aid Guide	1		
Mending kit w/assorted			
Safety pins	1		
¾" x 3" Bandages	100		
3" Wide Ace Bandages	1		
40" Triangle Bandage	3		
2" x 4 ½ Bandages	25		
1' wide Adhesive Tape	(2) 10 yd roll		
2" wide Adhesive Tape	(2) 5 yd roll		
3 ¾ " x 30" Wire Splint	2		

Supplies Inventory – March 2008
Supply Inventory in Building B

Item	Quantity	Batteries	Replacement Date
8 oz Paper Cups	300		
Heavy Aluminum Foil	37.5 sq. ft.		
Clorox Bleach	1 Quart		
Eye Dropper	1		
Nesting“Tupperware Containers”	7		
Hard Hats	2		
16.4 Coleman Propane Fuel	4		
Gallon-size Pitchers	2		
Large Plastic Bowls	2		
4-quart Cooking Pots	2		
Paper towels	2 rolls		
Combination Flashlight & Radio	1		
Plastic Flatware	2 boxes		
Playtex Rubber Gloves	1 pair		
Glow Stick Lights	10		
Wooden Waterproof Safety Matches	4 boxes		
“Nice-n-Clean” Moist Towellets	2 canisters		

Supplies Inventory – March 2008
Supply Inventory in Building B

Item	Quantity	Batteries	Replacement Date
250 1-ply Napkins	1 bag		
125 Foam Plates	1 pkg.		
'C' Batteries	8		
13 oz Petroleum Jelly	1		
Toilet Paper	12 rolls		
Misc. Utensils Pancake Flipper,	Can opener 2 lg. Spoons, Ladle	Paring knife	
175 count Tissues	1 box		
18 oz Jif Crunchy Peanut Butter	1		none listed
12 oz Foldgers Instant Coffee	1		
12 oz Non Dairy Creamer	1		none listed
20 oz. Granulated Sugar	1		none listed
26 oz Salt	1		
4 oz. Pepper	1		none listed
Tea Bags	1 Box		
25-Person Emergency Rations	2 boxes		none listed
5 lb. 8 oz Instant Breakfast Drink- Apple	2 cans		none listed
5 lb. 8 oz Instant Breakfast Drink- Orange	2 cans		none listed
"Johnsons Sample Pack"	Zinc oxide Baby bath, Bib	Powder Lotion	Shampoo

Item	Quantity	Batteries	Replacement Date
6 oz “Sure” Deodorant Spray	1 Can		
Steel Safety Pins	12		
5 oz Bars “Safeguard” deodorant Soap	3		
11 oz “Barbasol” Shaving Cream	1		
6.4 oz “Pepsodent” Toothpaste	2		
12 oz Antiseptic Spray	1 can		
“Oral Pure” Toothbrushes	12		
“Gillette” Daisy Slim Razors	12		
“Shaver II” Twin-blade Razors	10		
24-Pack “New Freedom” Maxi Pads	1		
20-Pack Super Absorbency Tampons	1		
2-teaspoon Oral Syringe	1		
33 gal Glad-Tie Trash Bags	1-30 pack		
54’ x 108” Table Covers	2		
7 oz “Science” Shampoo Packet	10		
Propane Stove, 2 burner with Griddle	1		
Metal Cot	6		
72 x 90’ Blanket	6		
Case Of Water	2		
Blue Tote – Coloring Books	Children’s Games	Crayons	Puzzle

PURPOSE

The Government Emergency Telecommunications Service (GETS) is a National Security and Emergency Preparedness (NS/EP) service of the federal government. This User Guide will show you how to place a GETS call and how to obtain assistance.

NOTE: GETS is to be used only by authorized federal, state and local government and industry personnel when they are unable to complete emergency calls through normal or alternate telecommunications means.

GETS provides:

- An increased probability of completing your emergency calls when normal calling methods fail
- Voice and data transmission via clear or secure telephone, facsimile, modem, or other equipment
- A single, universal telephone number and a Personal Identification Number (PIN) which allows you to access the service worldwide
- Calling to and from all 50 states and overseas locations
- Capabilities to enable rapid detection of fraud and abuse of the service
- A toll-free number for User Assistance available 24 hours

USING GETS


Placing a GETS Call	Pg. 4
GETS User Assistance	Pg. 5
Safeguarding Your PIN	Pg. 6
Primary Calling Method	Pg. 7
Alternate Calling Method	Pg. 7
From a Payphone	Pg. 8
From a Rotary Phone	Pg. 8
From a Military Phone	Pg. 9
From a Cell Phone	Pg. 10
From a Secure Phone	Pg. 10
From a Globalstar Satellite Phone	Pg. 11
From an Inmarsat or Inidium Satellite Phone	Pg. 11
From an FTS Phone Line	Pg. 12
From a DSN Phone Line	Pg. 12
From Another Country using DTS	Pg. 13
From Another Country using Direct Dialing	Pg. 13
From Another Country using AT&T Direct [®] or MCI WorldPhone [™]	Pg. 14

PLACING A GETS CALL

You need 3 things to use GETS

- 1 A working telephone or cell phone connected to the public telephone network
- 2 The universal access number for GETS
1-710-NCS-GETS
(1-710-627-4387)
- 3 A Personal Identification Number (PIN) on your GETS card

GETS calls cannot be made to toll free 800, 888, 877, 866, 855 numbers



**Government Emergency
Telecommunications Service**

1234 5678 9012

Name: JOHN DOE
Organization: NCS

GETS

Dial 1-710-NCS-GETS (627-4387)

At the tone, enter your PIN.

If you cannot complete a call, use a different long distance carrier.

AT&T: 1-888-288-4387 -or- 1010 + 288
MCI: 1-800-900-4387 -or- 1010 + 222
Sprint: 1-800-257-8373 -or- 1010 + 333

+1-710-627-4387

WPS

Assistance: For help or to report trouble, dial 1-800-818-4387 or 1-703-818-4387.

Test Calls: Make periodic GETS calls to 703-818-3924.

US GOVERNMENT PROPERTY. If found, return to: NCS (N3), 701 South Court House Road, Arlington, VA 22204-2198
WARNING: For Official Use Only by Authorized Personnel.

GETS USER ASSISTANCE

Help is available from your GETS Point Of Contact or by calling GETS User Assistance:

1-800-818-GETS (4387)

or

1-703-818-GETS

Your POC or User Assistance can help with:

- Questions about GETS
- Problems in using GETS
- A lost or stolen PIN card
- Suspected fraud or abuse

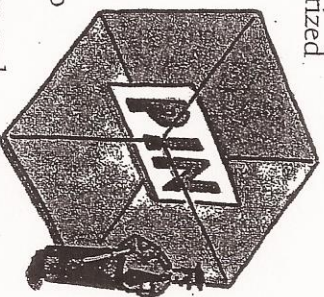
For identification, User Assistance personnel may request the password provided with your GETS card. Your POC can help if you lose or forget your password.

When reporting GETS problems to User Assistance, provide complete details, including the origination location of the call, the digits dialed, specific difficulties encountered, and error messages received. This information will permit User Assistance to determine where the call failed so that the trouble may be referred to the appropriate source for correction. It will also enable them to provide additional guidance that may help you complete your call.

SAFE-GUARDING YOUR PIN

You should exercise care in handling and entering your PIN. Report a lost GETS card as soon as possible. When you do this, your PIN will be canceled, and you will be issued a new one. To help prevent fraud and abuse, you should do the following:

- Guard your PIN from compromise by not openly exposing your card or PIN to anyone
- Memorize your PIN and password
- Report a lost or stolen GETS card as soon as possible by contacting your POC or calling User Assistance at 1-800-818-GETS (1-800-818-4387)
- Be aware of people loitering when you make calls in public places
- Use a normal conversational tone when placing operator assisted calls to avoid being overheard
- Never use your GETS card to verify your identity
- Never reveal your PIN to anyone other than a GETS operator or a GETS User Assistance representative you have called
- Never share your PIN with others unless authorized to do so by your organization. Please call GETS User Assistance to advise them of the multiple users. When the need for multiple users of your PIN no longer exists, advise GETS User Assistance and your old PIN will be canceled and a new card with a new PIN will be issued to you.



Primary Calling Method

From a Touch-Tone Phone

- Get an outside line
- Listen for dial tone
- Dial 1-710-NCS-GETS
- Listen for the tone
- Enter your 12 digit PIN*
- Listen for the prompt
- Enter the ten-digit destination number**
- If call fails, try Alternate Calling Method

Alternate Calling Method

From a Touch-Tone Phone if Primary Calling Method fails***

- Get an outside line
- Listen for dial tone
- Dial:
 - 1010 + 288 for AT&T or
 - 1010 + 222 for MCI or
 - 1010 + 333 for Sprint
- Dial 1-710-NCS-GETS
- Listen for the tone
- Enter your 12 digit PIN*
- Listen for the prompt
- Enter the ten-digit destination number**

From a Payphone

From a Payphone

- Listen for dial tone
- Dial 1-710-NCS-GETS
- Listen for the tone
- Enter your 12 digit PIN*
- If keypad seems inoperative, wait for GETS operator
- Listen for the prompt
- Enter the ten-digit destination number**

From a Rotary Phone

From a Rotary Dial Phone

- Listen for dial tone
- Dial:
 - 1010 + 222 for MCI or
 - 1010 + 333 for Sprint
- Dial 1-710-NCS-GETS
- Wait for the GETS operator
- Give your 12 digit PIN* and ten-digit destination number**

* If an invalid PIN was entered, listen for a voice prompt to reenter your PIN.

** For international calls except to Canada and some Caribbean Islands, dial 011 + country code + city code + local phone number. International calls are allowed more than ten digits. International portion of call may be billed to user.

*** If both methods fail, calls can be attempted using the following toll free numbers:

AT&T 1-888-288-4387

MCI 1-800-900-4387

Sprint 1-800-257-8373

Not all GETS priority enhancements are available using these numbers and in extreme congestion these numbers may not work.

* If an invalid PIN was entered, listen for a voice prompt to reenter your PIN.

** For international calls except to Canada and some Caribbean Islands, dial 011 + country code + city code + local phone number. International calls are allowed more than ten digits. International portion of call may be billed to user.

From a
Military Base
in the US

CONUS

- Get an outside line
- Listen for dial tone
- Dial 1-710-NCS-GETS
- Listen for the tone
- Enter your 12 digit PIN*
- Listen for the prompt
- Enter the ten-digit destination number**
- If call fails, try Alternate Calling Method

From an
Overseas US
Military Base

OCONUS

- Dial the base operator
- Request access to a US operator
- Request a commercial line
- Listen for dial tone
- Dial 1-710-NCS-GETS
- Listen for the tone
- Enter your 12 digit PIN*
- Listen for the prompt
- Enter the ten-digit destination number**

From a
Cell Phone

From a Cell, In-Flight, or PCS Phone

- Dial 710-NCS-GETS+ for a non-WPS++
- Press the send key
- Listen for the tone
- Enter your 12 digit PIN*
- Listen for the prompt
- Enter the ten-digit destination number**
- GETS access may not be available in all locations. There will be airtime charges for GETS calls

From a
Secure Phone

From a Secure Phone (STU-III or STE in STU-III mode)+++

- Dial 710-NCS-GETS
- Listen for the tone
- Enter your 12 digit PIN*
- Listen for the prompt
- Enter the ten-digit destination number**
- If making a secure voice mode call, go to secure mode after the destination answers

* If an invalid PIN was entered, listen for a voice prompt to re-enter your PIN.

** For international calls except to Canada and some Caribbean Islands, dial 011 + country code + city code + local phone number. International calls are allowed more than ten digits. International portion of call may be billed to user.

* If an invalid PIN was entered, listen for a voice prompt to re-enter your PIN

** For international calls except to Canada and some Caribbean Islands, dial 011 + country code + city code + local phone number. International calls are allowed more than ten digits. International portion of call may be billed to user.

+ Cellular carriers may require a 1 before 710-NCS-GETS

++ Dial *272-710-NCS-GETS if you subscribe to Wireless Priority Service (WPS). WPS provides priority access to the cellular network.

+++ These calls may require a 1 prefix before 710-NCS-GETS. Secure GETS calls cannot be made from GSM Sector or CDMA QSEC-800 wireless phones or from STEs in the FNBDI mode.

From a Globalstar Satellite Phone

- Follow normal procedure to acquire satellite signal
- Dial 1-710-NCS-GETS
- Press the SEND key
- Listen for the tone
- Enter your 12 digit PIN*
- Listen for the prompt
- Enter the ten-digit destination number**

From an Inmarsat/ Iridium Satellite Phone

- Follow normal procedure to acquire satellite signal
- For Inmarsat (depending on model):
 - a) Dial 00-710-NCS-GETS or 01-1-710-NCS-GETS
 - b) Press SEND (if required)
- For Iridium:
 - a) Dial 00-1-710-NCS-GETS
 - b) Press SEND

Then for all:

- Listen for the tone
- Enter your 12 digit PIN*
- Listen for the prompt
- Enter the ten-digit destination number**

From an FTS Phone Line

- Access FTS
- Dial 1-710-NCS-GETS
- Listen for the tone
- Enter your 12 digit PIN*
- Listen for the prompt
- Enter the ten-digit destination number**

From a DSN Phone Line

- Access DSN
- Dial 1-710-NCS-GETS
- Listen for the tone
- Enter your 12 digit PIN*
- Listen for the prompt
- Enter the ten-digit destination number**

* If an invalid PIN was entered, listen for a voice prompt to reenter your PIN.

** For international calls except to Canada and some Caribbean Islands, dial 011 + country code + city code + local phone number. International calls are allowed more than ten digits. International portion of call may be billed to user.

* If an invalid PIN was entered, listen for a voice prompt to reenter your PIN.

** For international calls except to Canada and some Caribbean Islands, dial 011 + country code + city code + local phone number. International calls are allowed more than ten digits. International portion of call may be billed to user.

From Another
Country
using DTS

From DTS in Another Country

- Access DTS International Voice Gateway
- Dial 96 [the DTS PSN access code]
- Dial 1-710-NCS-GETS
- Listen for the tone
- Enter your 12 digit PIN*
- Listen for the prompt
- Enter the ten-digit destination number**

From Another
Country
using Direct
Dialing

From Any Touch-Tone Phone

- Get an outside line
- Dial country code for US
- Dial 1-710-NCS-GETS
- Listen for the tone
- Enter your 12 digit PIN*
- Listen for the prompt
- Enter the ten-digit destination number**

From Another
Country using
AT&T Direct[®]

From Any Phone

- Get an outside line
- Listen for the dial tone
- Dial the AT&T Direct access number
- Wait for an operator†
- Tell the operator, "This is a Government Emergency Telecommunications Service (GETS) Call"
- If necessary, give the operator the GETS number
710-NCS-GETS
(710-627-4387)
- Listen for the tone
- Enter your 12 digit PIN*
- Listen for the prompt
- Enter the ten-digit destination number**

From Another
Country using
MCI WorldPhone[®]

From Any Touch-Tone Phone

- Get an outside line
- Listen for the dial tone
- Dial the MCI WorldPhone access number
- Wait for an operator†
- Tell the operator, "This is a Government Emergency Telecommunications Service (GETS) Call"
- If necessary, give the operator the GETS number
710-NCS-GETS
(710-627-4387)
- Provide operator with GETS PIN and ten-digit destination number**

* If an invalid PIN was entered, listen for a voice prompt to reenter your PIN.

** For international calls except to Canada and some Caribbean Islands, dial 011 + country code + city code + local phone number. International calls are allowed more than ten digits. International portion of call may be billed to user.

† Do not respond to automated prompts; wait for the operator.
* If an invalid PIN was entered, listen for a voice prompt to reenter your PIN.

** For international calls except to Canada and some Caribbean Islands, dial 011 + country code + city code + local phone number. International calls are allowed more than ten digits. Entire call, international and domestic, will be billed to your GETS PIN.



**EMERGENCY PREPAREDNESS
AND
RESPONSE PROCEDURE**

ESTABLISHED: MARCH 1994

REVISED: APRIL 2011

Chapter 2: Regional Water Sources

This chapter describes the water resources available to Valley District and the retail purveyors for the 25-year period covered by the Plan. Both currently available and planned supplies are discussed.

2.1 Wholesale Water Supplies

This section provides a description of wholesale water supplies, entitlements to those supplies and current and planned wholesale water supplies.

2.1.1 Imported Water Supplies

Imported water is available to Valley District from the SWP; Valley District is the fifth largest State Water Contractor, with an annual maximum entitlement of 102,600 acre-feet through 2035. The SWP is the largest state-built, multi-purpose water project in the country. It was authorized by the California State Legislature in 1959, with the construction of most initial facilities completed by 1973. Today, the SWP includes 34 storage facilities, reservoirs and lakes, 20 pumping plants, 4 pumping-generating plants, 5 hydro-electric plants and approximately 700 miles of aqueducts and pipelines. The primary water source for the SWP is the Feather River, a tributary of the Sacramento River. Storage released from Oroville Dam on the Feather River flows down natural river channels to the Sacramento-San Joaquin River Delta (Delta). While some SWP supplies are pumped from the northern Delta into the North Bay Aqueduct, the vast majority of SWP supplies are pumped from the southern Delta into the 444-mile-long California Aqueduct. The California Aqueduct conveys water along the west side of the San Joaquin Valley to Edmonston Pumping Plant, where water is pumped over the Tehachapi Mountains and the aqueduct then divides into the East and West Branches.

The San Bernardino Valley lies on the East Branch of the California Aqueduct and Valley District takes delivery of SWP water at the Devil Canyon Power Plant just northwest of California State University, San Bernardino. From this location, Valley District can deliver water to the west via the San Gabriel Valley Municipal Water District Pipeline (Valley District owns capacity in this pipeline) or to the east through the East Branch Extension of the SWP.

Each SWP contractor's SWP Water Supply Contract includes a “Table A,” which lists the maximum amount of water an agency is entitled to throughout the life of the contract. The Table A amount is each contractor's proportionate share, or “allocation,” of the SWP water supply. However, actual deliveries of SWP water each year vary, based mainly on the amount of precipitation (for other factors, see Section 2.1.2 below). Table 2-1 presents historical total SWP water deliveries to Valley District.

**TABLE 2-1
HISTORICAL TOTAL SWP DELIVERIES TO VALLEY DISTRICT**

Year	Deliveries (AFY)^(a)	Year	Deliveries (AFY)^(a)
1999	12,874	2005	31,550
2000	18,399	2006	35,329
2001	26,488	2007	57,116
2002	72,069	2008	31,006
2003	27,415	2009	35,433
2004	56,153	2010	49,406

Note:

(a) Deliveries from 1999 to 2007 as reported in The State Water Project Delivery Reliability Report 2009 (DWR August 2010). Deliveries for years 2008 to 2010 provided by Department of Water Resources.

2.1.2 Imported Water Supply Reliability

The amount of SWP water delivered to State Water Contractors in a given year depends on a number of factors, including the demand for the supply, amount of rainfall, snowpack, runoff, water in storage, pumping capacity from the Delta, and legal/regulatory constraints on SWP operation. Water delivery reliability depends on three general factors: the availability of water, the ability to convey water to the desired point of delivery, and the magnitude of demand for the water. Urban SWP contractors' requests for SWP water, which were low in the early years of the SWP, have been steadily increasing over time. Regulatory constraints have changed over time, becoming more restrictive.

Since the last round of UWMPs were prepared in 2005, the California Department of Water Resources has twice updated its State Water Project Delivery Reliability Report. The biennial Report assists SWP contractors in assessing the reliability of the SWP component of their overall supplies. The 2009 SWP Reliability Report updates DWR's estimate of the current (2009) and future (2029) water delivery reliability of the SWP. The updated analysis shows that the primary component of the annual SWP deliveries (referred to as Table A deliveries) will be less under current and future conditions, when compared to the preceding report (State Water Project Delivery Reliability Report 2007). The report discusses factors having the potential to affect SWP delivery reliability:

- Restrictions on SWP and Central Valley Project (CVP) operations due to State regulation and federal biological opinions to protect endangered fish such as Delta smelt and spring-run salmon;
- Climate change and sea level rise, which is altering the hydrologic conditions in the State;
- The vulnerability of Delta levees to failure due to floods and earthquakes.

"Water delivery reliability" is defined as the annual amount of water that can be expected to be delivered with a certain frequency. SWP delivery reliability is calculated using computer simulations based on 82 years of historical data.

The 2009 SWP Reliability Report recognizes continuing challenges to the ability of the SWP to deliver full contractual allotments of SWP water. For current conditions, the dominant factor for these reductions is the restrictive operational requirements contained in the federal biological

opinions. Deliveries estimated for the 2009 Report expressly account for the operational restrictions of the biological opinions issued by the U.S. Fish and Wildlife Service in December 2008 and the National Marine Fisheries Service in June 2009 governing the SWP and Central Valley Project operations.

For future conditions, the 2009 SWP Reliability Report conservatively assumes that the restrictions imposed by the biological opinions will still be in place, and includes the potential effects of climate change to estimate future deliveries. The changes in run-off patterns and amounts are included along with a potential rise in sea level. Sea level rise has the potential to require more water to be released to repel salinity from entering the Delta in order to meet the water quality objectives established for the Delta. The 2005 SWP Reliability Report did not include any of these potential effects. For the 2007 SWP Reliability Report, the changes in run-off patterns and amounts were incorporated into the analyses, but the potential rise in sea level was not.

These updated analyses in the 2009 SWP Reliability Report indicate that the SWP, using existing facilities operated under current regulatory and operational constraints and future anticipated conditions, and with all contractors requesting delivery of their full Table A amounts in most years, could deliver 60 percent of Table A amounts on a long-term average basis. A more detailed analysis of the factors affecting SWP reliability is provided in Appendix B.

An ongoing planning effort to increase long-term supply reliability for both the SWP and CVP is taking place through the Bay Delta Conservation Plan (BDCP). The co-equal goals of the BDCP are to improve water supply and restore habitat in the Delta. The BDCP is being prepared through a collaboration of state, federal, and local water agencies, state and federal fish agencies, environmental organizations, and other interested parties. Several "isolated conveyance system" alternatives are being considered in the BDCP which would divert water from North of the Delta and convey it "around" the Delta to a point where water is pumped for the SWP and CVP. The new conveyance facilities would allow for greater flexibility in balancing the needs of the estuary with reliable water supplies. In December 2010, DWR released a "Highlights of the BDCP" document which summarizes the activities and expected outcomes of the BDCP. The results of preliminary analysis included in the document indicate the proposed conveyance facilities may increase the combined average long-term water supply to the SWP and CVP from 4.7 million acre-feet (MAF) per year to 5.9 MAF/year. This would represent an increase in reliability for State Water Project contractors from 60 percent to 75 percent. Planned completion of the BDCP and corresponding environmental analysis is early 2013. However, for planning purposes, this RUWMP has assumed the more conservative supply reliability as described in the 2009 SWP Reliability Report.

In addition to the overall long-term average presented in the 2009 SWP Reliability Report, it also includes Delivery Reliability Reports (DRRs) for each of the individual SWP contractors based upon the unique conditions that impact each contractor. The DRR for Valley District indicated average reliability would be 62 percent in 2009 and will decrease slightly to 60 percent in 2029. Table 2-2 provides the projected SWP water available to Valley District over the next 25 years, based on the Valley District's maximum Table A amounts from 2010 to 2035 and the supply reliability analyses provided in the 2009 SWP Report and associated DRR.

**TABLE 2-2
CURRENT AND PLANNED WHOLESALE WATER SUPPLIES AVAILABLE
(LONG-TERM AVERAGE)**

Wholesaler (Supply Source)	2010	2015	2020	2025	2030	2035 ^(a)
California State Water Project						
% of Table A Amount Available	62%	62%	62%	62%	60%	60%
Anticipated Deliveries (AFY)	63,612	63,612	63,612	63,612	61,560	61,560

Note:

- (a) The 2009 Reliability Report projects SWP supplies to 2029. This 2010 UWMP covers the period from 2010 to 2035. Therefore, the available supplies from 2030 to 2035 are projected to be the same as in 2029 particularly as DWR has not published any information of analyses to show that SWP deliveries will be lower at that time.

Table 2-3 summarizes estimated SWP supply availability to Valley District in a single-dry year (based on a repeat of the worst-case historic hydrologic conditions of 1977) and over a multiple-dry year period (based on a repeat of the worst-case historic four-year drought of 1931 to 1934). During a dry or critical year as defined by the Sacramento River Index, the SWP will be able to supply an average of 13,338 AF (year 2009) to 12,312 AF (year 2029) to Valley District. During a multiple dry year period (1931 to 1934), Valley District's SWP supply is estimated to be about 33,858 AFY (current year) to 35,910 AFY (year 2029).

The values shown in Tables 2-2 and 2-3 cover the period 2009 – 2029 based on the DWR estimates at the 2009 level for the current conditions and at the 2029 level for future conditions. They are the best information and best estimates available for use in developing water management plans for the period 2010 to 2035 for this Plan.

TABLE 2-3
WHOLESALE SUPPLY RELIABILITY:
SINGLE-DRY YEAR AND MULTIPLE-DRY YEAR CONDITIONS^(a)

Wholesaler	Single-Dry Year ^(b)	Multiple-Dry Year ^(c)
California State Water Project (SWP)		
2009		
% of Table A Amount Available	13%	33%
Anticipated Deliveries (AFY)	13,338	33,858
2029		
% of Table A Amount Available	12%	35%
Anticipated Deliveries (AFY)	12,312	35,910

Notes:

- (a) The percentages of Table A amount projected to be available are taken from Delivery Reliability Reports prepared for Valley District by DWR as part of the "The State Water Project Delivery Reliability Report 2009" (August 2010). Supplies are calculated by multiplying Valley District's Table A amount by these percentages.
- (b) Based on the worst case historic single dry year of 1977.
- (c) Supplies shown are annual averages over four consecutive dry years, based on the worst case historic four-year dry period of 1931-1924.

While the primary supply of water available from the SWP is allocated Table A supply, SWP supplies in addition to Table A water are periodically available, including "Article 56C" carryover water, "Article 21" water, "Turnback Pool" water, and DWR "Dry Year Purchase Programs". Pursuant to the long-term water supply contracts, SWP contractors have the opportunity to carry over a portion of their allocated water approved for delivery in the current year for delivery during the next year. Valley District has exercised this option in the past. Contractors can also "carry over" water under Article 56C of the SWP long-term water supply contract with advance notice when they submit their initial request for Table A water, or within the last three months of

the delivery year. The carryover program was designed to encourage the most efficient and beneficial use of water and to avoid obligating the contractors to “use or lose” the water by December 31 of each year. The water supply contracts state the criteria of carrying over Table A water from one year to the next. Normally, carryover water is water that has been exported during the year, has not been delivered to the contractor during that year, and has remained stored in the SWP share of San Luis Reservoir to be delivered during the following year. Storage for carryover water no longer becomes available to the contractors if it interferes with storage of SWP water for project needs (DWR 2010). In 2009, Valley District received 9,348 AF of “carryover” water.

Article 21 water (which refers to the SWP contract provision defining this supply) is water that may be made available by DWR when excess flows are available in the Delta (i.e., when Delta outflow requirements have been met, SWP storage south of the Delta is full, and conveyance capacity is available beyond that being used for SWP operations and delivery of allocated and scheduled Table A supplies). Article 21 water is made available on an unscheduled and interruptible basis and is typically available only in average to wet years, generally only for a limited time in the late winter. Since 1999, Valley District has taken 256 AF of Article 21 water.

The Turnback Pool is a program available to State Water Contractors who signed the “Monterey Amendment”. The program helps facilitate the sale of excess Table A supplies and establishes a sale price for the water. Valley District did not sign the Monterey Amendment. However, Valley District is able to sell any excess water to other SWP contractors. Currently, Valley District has an agreement with the Metropolitan Water District of Southern California (MWDSC) which gives MWDSC “first right of refusal” to purchase Table A supplies deemed “excess” to Valley District’s needs.

As urban contractor demands increase in the future, the amount of water turned back and available for purchase will likely diminish. In critical dry years, DWR has formed Dry Year Water Purchase Programs for contractors needing additional supplies. Through these programs, water is purchased by DWR from willing sellers in areas that have available supplies and is then sold by DWR to contractors willing to purchase those supplies.

Because the availability of these supplies is somewhat uncertain, they are not included as supplies to Valley District in this Plan. However, Valley District’s access to these supplies when they are available may enable it to improve the reliability of its SWP supplies beyond the values used throughout this report.

2.2 Local Water Supplies

Groundwater is a major source of water supply for the San Bernardino Valley. This section provides a description of local surface water and groundwater management in the San Bernardino Valley, including court judgments, groundwater management plans, and groundwater pumping rights.

2.2.1 The San Bernardino Basin Area

The SBBA was defined by and adjudicated in gross by the *Western* Judgment in 1969. The SBBA has a surface area of approximately 140.6 square miles and lies between the San Andreas and San Jacinto faults. The basin is bordered on the northwest by the San Gabriel

Mountains and Cucamonga fault zone; on the northeast by the San Bernardino Mountains and San Andreas fault zone; on the east by the Banning fault and Crafton Hills; and on the south by a low, east-facing escarpment of the San Jacinto fault and the San Timoteo Badlands. Alluvial fans extend from the base of the mountains and hills that surround the valley and coalesce to form a broad, sloping alluvial plain in the central part of the valley. The SBBA encompasses the Bunker Hill subbasin (8.02-06) defined by DWR and also includes a small portion of the Yucaipa Basin (8-02.07) and Rialto-Colton Basin (8-02.04) as defined by DWR. The SBBA also encompasses surface water.

The *Western* Judgment established the natural safe yield of the SBBA to be a total of 232,100 AF per year for both surface water diversions and groundwater extractions (a copy of the *Western* Judgment is provided in Appendix C). Of this amount, agencies within the Valley District service area are allocated 167,238 AFY; agencies in Riverside County are allocated 64,862 AFY (excluding any specific groundwater banking performed by Riverside county agencies). San Bernardino agencies are allowed to extract more than 167,238 AFY from the SBBA, but extractions over 167,238 AF require import and recharge by Valley District of a like amount of water. The Western-San Bernardino Watermaster provides an annual accounting of the total extractions as compared to the safe yield. In years when total extractions are less than the safe yield, a “credit” is given. In years when total extractions are greater than the safe yield, a “debit” is given. If the net result is a debit condition, the replenishment obligation is triggered. As of the accounting performed for the 2009 Annual Western-San Bernardino Watermaster Report, Valley District has 211,323 AF of credit accumulated in the SBBA. Table 2-4 details historical extractions from the SBBA for years 2004-2008; data for year 2009 is not yet available.

The SBBA and other groundwater basins utilized by RUWMP agencies are mapped in Figure 2-1.

Insert

FIGURE 2-1. GROUNDWATER BASINS OF THE SAN BERNARDINO VALLEY AREA

Insert 2nd page

**TABLE 2-4
HISTORIC EXTRACTIONS SBBA (AFY)**

	2004	2005	2006	2007	2008
City of Colton ^(a)	5,845	5,615	6,394	6,696	6,917
East Valley Water District ^(a)	23,852	23,115	32,961	31,577	23,951
City of Loma Linda ^(b)	5,522	5,394	5,685	6,231	5,919
City of Redlands Water Utility ^(a)	33,694	36,361	36,650	33,635	32,313
San Bernardino Municipal Water Department ^(b)	49,543	48,955	57,391	59,594	57,237
West Valley Water District ^(a)	12,721	10,907	12,791	13,189	14,549
Yucaipa Valley Water District ^(a)	301	393	281	195	161
Other Agencies in San Bernardino and Private Entities ^(c)	183,810	191,533	202,524	196,767	189,747
Riverside-Highland Water Company ^(d)	1,754	3,377	4,149	3,633	2,730
Agencies in Riverside County ^(e)	57,814	51,123	57,520	60,167	58,962
Total	374,856	376,773	416,347	411,684	392,486

Notes:

- (a) From *Thirty-Eighth Annual Report of the Santa Ana River Watermaster*.
- (b) From agency records.
- (c) Includes Fontana Water Company, Marygold Mutual Water Company, Muscoy Mutual Water Company, City of Rialto, Terrace Water Company, Devore Water Company, Crafton Water Company, Inland Valley Development company, Mount Vernon Water Company, Pioneer Mutual Water company, Pharaoh-Powell Mutual Water Company, Redlands Water Company, and Tennessee Water Company. Data from Volume 1 of Western-San Bernardino Watermaster Annual Report for 2009.
- (d) Riverside-Highland Water Company's service area extends into both San Bernardino and Riverside counties. However, Riverside-Highland Water Company is a Plaintiff within the *Western Judgment* and therefore extractions for Riverside-Highland are typically included with those of Riverside County entities. Data from Table 11, Western-San Bernardino Watermaster Annual Report for 2009.
- (e) Includes Meeks & Daley Water Company, Riverside Public Utilities, Regents of California.

2.2.1.1 Lytle Creek Subbasin

Lytle Creek subbasin is not mapped in DWR Bulletin 118-2003; however, the subbasin is an integral part of the Upper Santa Ana Valley Groundwater Basin and a major recharge area for both the Bunker Hill and Rialto-Colton subbasins. Historically, local agencies have recognized Lytle Creek subbasin as a distinct groundwater subbasin. For purposes of this report, the Bunker Hill and Lytle Creek subbasins are generally considered as one groundwater basin-the SBBA. However, the three separate water-bearing zones and intervening confining zones of the Bunker Hill subbasin are not observed in the Lytle subbasin. Sediments within the Lytle subbasin are, for the most part, highly permeable, and the aquifer has a high specific yield. High permeability and specific yield tend to result in an aquifer that responds rapidly to changes in inflow (precipitation and streamflow) and outflow (groundwater pumping, streamflow, and subsurface outflow).

Lytle Creek subbasin is adjoined on the west by the Rialto-Colton subbasin along the Lytle Creek fault, and on the east and southeast by the Bunker Hill subbasin along the Loma Linda fault and Barrier G. The northwestern border of the subbasin is delineated by the San Gabriel Mountains, and runoff from the mountains flows south/southeast through Lytle and Cajon Creeks into the basin.

Numerous groundwater barriers are present within Lytle Creek subbasin, resulting in six compartments within the subbasin. Barriers A through D divide the northwestern portion of the

subbasin into five sub-areas and the southeastern portion of the subbasin comprises the sixth sub-area. Barrier F divides the northwestern sub-areas from the southeastern sub-area. Studies have shown that the groundwater barriers are less permeable with depth (Dutcher and Garret 1963). When groundwater levels are high during wet years, more leakage occurs across the barriers than when groundwater levels are lower (i.e., during dry years). The amount of pumping in each sub-area, in large part, controls the movement of groundwater across the barrier within the older alluvium but not the younger alluvium (Dutcher and Garrett 1963).

It is important to note that the water rights in Lytle Creek are set forth in long-standing court judgments governing the rights of the parties in that basin. The Lytle Creek Basin was adjudicated under the 1924 Judgment No. 17,030 from the Superior Court of San Bernardino County and is managed by the Lytle Creek Water Conservation Association which is made up of the successors to the stipulated parties of the judgment (a copy of the 1924 judgment is provided in Appendix D)

2.2.2 Rialto-Colton Subbasin (DWR 8-02.04)

The Rialto-Colton subbasin underlies a portion of the upper Santa Ana Valley in southwestern San Bernardino County and northwestern Riverside County. This subbasin is about 10 miles long and varies in width from about 3.5 miles in the northwestern part to about 1.5 miles in the southeastern part (Figure 2-1). This subbasin is bounded by the San Gabriel Mountains on the northwest, the San Jacinto fault on the northeast, the Badlands on the southeast, and the Rialto-Colton fault on the southwest. The Santa Ana River cuts across the southeastern part of the basin. The basin generally drains to the southeast, toward the Santa Ana River. Warm and Lytle creeks join near the southeastern boundary of the basin and flow to meet the Santa Ana River near the center of the southeastern part of the subbasin.

The principal recharge areas are Lytle Creek, Reche Canyon in the southeastern part, and the Santa Ana River in the south-central part. Lesser amounts of recharge are provided by percolation of precipitation to the valley floor, underflow, and irrigation and septic returns (DWR 1970, Wildermuth 2000). Underflow occurs from fractured basement rock (DWR 1970, Wildermuth 2000) and through the San Jacinto fault in younger Santa Ana River deposits at the south end of the subbasin (Dutcher and Garrett 1958) and in the northern reaches of the San Jacinto fault system (Wildermuth 2000). Groundwater recharge has been augmented through the use of spreading basins.

The groundwater extractions in the Colton Basin Area are governed by the Rialto Basin Decree and the *Western* Judgment. The *Western* Judgment uses the terminology “Colton Basin Area”; however, this basin is also known as the Rialto-Colton Basin. Fontana Water Company (FWC), City of Rialto, City of Colton, and West Valley Water District are subject to the Rialto Basin Decree, entered on December 22, 1961, by the Superior Court for the County of San Bernardino. Entitlement extractions for any given water year (October 1 to September 30) are affected by groundwater elevations between March and May for three specific “index” wells (Duncan Well, Willow Street Well, and Boyd Well). Under specified conditions, groundwater extractions may be limited during certain months.

The *Western* Judgment requires Valley District to maintain the average lowest static water levels in three index wells in the Colton Basin Area and Riverside North Basins above 822.04 feet msl. If the water levels fall below 822.04 feet msl, Valley District is obligated to

recharge the basin with imported water or reduce extractions. Extractions for use in Riverside County are limited to 3,381 AFY.

The safe yield for the Colton Basin Area was not defined by the *Western* Judgment or the Rialto Basin decree. Extractions during the five-year base period of the *Western* Judgment, 1959 to 1963, were, on average, 11,731 AFY. Extractions have averaged 17,675 AFY from 1996 to 2008. Since the safe yield has not been determined for the Colton Basin Area, the average extraction from 1996-2008 of 17,675 AFY was reported in the Integrated Regional Water Management Plan (IRWMP) as the sustainable supply from the Colton Basin Area.

2.2.3 Riverside-Arlington Subbasin (DWR 8-02.03)

The Riverside-Arlington subbasin underlies part of the Santa Ana River Valley in northwest Riverside County and southwest San Bernardino County. This subbasin is bounded by impermeable rocks of Box Springs Mountains on the southeast, Arlington Mountain on the south, La Sierra Heights and Mount Rubidoux on the northwest, and the Jurupa Mountains on the north. The northeast boundary is formed by the Rialto-Colton fault, and a portion of the northern boundary is a groundwater divide beneath the community of Bloomington. The Santa Ana River flows over the northern portion of the subbasin. Annual average precipitation ranges from about 10 to 14 inches. The Riverside-Arlington subbasin is replenished by infiltration from Santa Ana River flow, underflow past the Rialto-Colton fault, intermittent underflow from the Chino subbasin, return irrigation flow, and deep percolation of precipitation (DPW 1934, Wildermuth 2000).

Groundwater extractions in the Riverside North Groundwater Basin (the portion of the Riverside-Arlington Subbasin in San Bernardino County) are governed by the *Western* Judgment. Extractions for use in San Bernardino County are unlimited, provided that water levels at three index wells in the Rialto-Colton and Riverside North Basins stay above 822.04 feet msl. Extractions from the Riverside North Basin for use in Riverside County are limited to 21,085 AFY.

2.2.4 Yucaipa Subbasin (DWR 8-02.07)

The Yucaipa subbasin underlies the southeast part of San Bernardino Valley. It is bounded on the northeast by the San Andreas fault, on the northwest by the Crafton fault, on the west by the Redlands fault and the Crafton Hills, on the south by the Banning fault, and on the east by the Yucaipa Hills. The average annual precipitation ranges from 12 to 28 inches. This part of the San Bernardino Valley is drained by Oak Glen, Wilson, and Yucaipa Creeks south and west into San Timoteo Wash, a tributary to the Santa Ana River.

Dominant recharge to the subbasin is from percolation of precipitation and infiltration within the channels of overlying streams, particularly Yucaipa and Oak Glen Creeks; underflow from the fractures within the surrounding bedrock beneath the subbasin; and artificial recharge at spreading grounds.

The Yucaipa Basin is technically in an overdraft situation based on some estimates of basin yield. However, groundwater elevations overall have been relatively stable (YVWD 2005).

DWR treats the San Timoteo and Beaumont basins as a single basin, the San Timoteo Basin; locally these basins are

2.2.5 San Timoteo Subbasin (DWR 8-02.08)

The San Timoteo Subbasin is outside of the Valley District service area, but is one of the sources used by YVWD. The San Timoteo subbasin underlies Cherry Valley and the City of Beaumont in southwestern San Bernardino and northwestern Riverside counties. The subbasin is bounded to the north and northeast by the Banning fault and impermeable rocks of the San Bernardino Mountains, Crafton Hills, and Yucaipa Hills; on the south by the San Jacinto fault; on the west by the San Jacinto Mountains; and on the east by a topographic drainage divide with the Colorado River hydrologic region. The surface is drained by Little San Gorgonio Creek and San Timoteo Canyon to the Santa Ana River. Average annual precipitation ranges from 12 to 14 inches in the western part to 16 to 18 inches in the eastern part of the subbasin (DWR 2003).

Holocene-age alluvium, which consists of unconsolidated clay, silt, sand, and gravel, is the principal water-bearing unit in this subbasin. The alluvium, which is probably thickest near the City of Beaumont (DPW 1934), thins toward the southwest and is not present in the central part of the subbasin. The Pliocene-Pleistocene-age San Timoteo Formation consists of alluvial deposits that have been folded and eroded. These deposits are widely distributed and principally composed of gravel, silt, and clay, with comparatively small amounts of calcite-cemented conglomerate. The clasts are chiefly granitic, with lesser amounts of volcanic and metamorphic pebbles and cobbles (DWR 2003). The total thickness of the San Timoteo Formation is estimated to be between 1,500 and 2,000 feet, but logs of deep wells near the central part of the subbasin indicate water-bearing gravels to depths of only 700 to 1,000 feet (DWR 2003).

The Banning and Cherry Valley faults and two unnamed faults in the northeast part of the subbasin offset impermeable basement rocks, stepping down to the south (DWR 2003). Water levels change across the Banning fault, dropping 100 to 200 feet to the south (DWR 2003). In the western part of the subbasin, water levels drop to the south about 75 feet across the Loma Linda fault and about 50 feet across the San Timoteo barrier (DWR 2003). In the northeastern part of the subbasin, water levels drop to the south across two unnamed faults (DWR 2003). Each of these faults appears to disrupt groundwater movement in the subbasin.

DWR has not identified the San Timoteo Subbasin as in overdraft (DWR 2003).

2.2.5.1 Beaumont Groundwater Basin

DWR considers the Beaumont Groundwater Basin as composed of three other groundwater basins, primarily the San Timoteo subbasin, the Upper Santa Ana Valley Groundwater Basin (No. 8-2), and the San Gorgonio Pass Subbasin (No. 7-21.04). Locally the Beaumont is treated as a distinct basin. The Beaumont Basin is outside of the Valley District service area, but is one of the sources used by YVWD.

The Beaumont Basin is located in northwestern Riverside County, south of the Yucaipa Basin. While this basin is located outside of San Bernardino Valley Municipal Water District's jurisdiction, the basin eventually drains to San Timoteo Creek, a tributary of the Santa Ana River

and covers approximately 26 square miles. Groundwater elevations generally slope from the northeast to southwest in the basin.

Groundwater within the basin is predominantly found in Holocene age alluvium and in the San Timoteo Formation. While the San Timoteo Formation extends to depths in excess of 1500 feet, water bearing sediments within the Beaumont Basin exist to depths of 700 to 1000 feet. Estimates for total groundwater storage capacity within the basin vary. The Beaumont Basin storage capacity is estimated at approximately 1,000,000 AF (Beaumont Basin Watermaster, 2007).

In February 2004 the San Timoteo Watershed Management Authority filed a judgment adjudicating the groundwater rights in the Beaumont Basin and assigned the Beaumont Basin Watermaster with the authority to manage the groundwater basin. The Beaumont Basin Watermaster is comprised of managers from the Beaumont Cherry Valley Water District, City of Banning, City of Beaumont, South Mesa Mutual Water Company and Yucaipa Valley Water District. The Beaumont Basin Watermaster reports a long-term yield for the Beaumont Basin of 8,560 AFY. Extraction within the basin is limited to a long-term average of 16,000 AFY (160,000 AF over 10 years). During the past four years, the Watermaster reports annual groundwater extractions in the basin that range from 14,100 AFY to 19,300 AFY. Yucaipa Valley Water District pumping from the Beaumont basin was approximately 527 AFY during FY 2008/2009

The adjudication of the Beaumont Basin has defined overlying and appropriator pumping rights and also allows for supplemental water to be stored and recovered from the basin. The Beaumont Basin, under this adjudication, is considered to be in a condition of overdraft with assigned maximum annual overlying production rights of 8,650 acre-feet. The YVWD has a right to an operating yield of 2,552 AFY from the Beaumont Basin, which consists of 381 AF of appropriative right and 2,173 AF of Controlled Overdraft and Supplemental Water Recharge Allocation. YVWD can deliver amounts in addition to the 2,552 AF as supported from overlying water right holders.

2.2.6 Chino Subbasin (DWR 8-2.01)

The San Timoteo Subbasin is entirely outside of the Valley District service area, but is one of the sources used by WVWD. The Chino Subbasin lies in the southwest corner of San Bernardino County. The Chino Subbasin is bordered to the east by the Rialto-Colton fault. In the other three directions, the Chino Subbasin is ringed by impermeable mountain rock, the San Gabriel Mountains to the north, the Jurupa Mountains and Puente Hills to the south and southwest. Average annual precipitation across the basin is 17 inches. This part of the San Bernardino Valley is drained by San Antonio Creek and Cucamonga Creek southerly to the Santa Ana River (DWR 2003).

On January 2, 1975, several Chino Basin producers filed suit in California State Superior Court for San Bernardino County (the "Court") to settle the problem of allocating water rights in the Chino Basin. On January 27, 1978, the Court entered a judgment in *Chino Basin Municipal Water District v. City of Chino et. al.* adjudicating water rights in the Chino Basin and establishing the Chino Basin Watermaster. The Judgment adjudicated all groundwater rights in Chino Basin and contains a physical solution to meet the requirements of water users having rights in or dependent upon the Chino Basin. The Judgment also appointed the Watermaster to

account for and implement the management of the Chino Basin. The Judgment declared that the initial operating safe yield of the Chino Basin is 145,000 acre feet per year. The Basin is managed through implementation of the Chino Optimum Basin Management Plan (Appendix C). Per the Judgment, West Valley Water District has a minimum of approximately 1,000 AFY of extraction rights. Extractions above that amount must be replenished with SWP water through a program with the Chino Basin Watermaster.

2.3 Local Water Management

2.3.1 Western Judgment

The *Western* Judgment, entered simultaneously with the *Orange County* Judgment, settled rights within the upper Santa Ana River watershed to ensure that those resources would be sufficient to meet the flow obligations in the lower Santa Ana River watershed set by the *Orange County Judgment (Western Municipal Water District of Riverside County v. East San Bernardino County Water District, Superior Court of Riverside County, Case No. 78426 [April 17, 1969])*. Toward this end, the *Western* Judgment generally provides for:

- A determination of safe yield of the SBBA;
- Establishment of specific amounts 64,872 acre-feet of water that can be extracted from the SBBA by plaintiff parties (parties in Riverside County). This is equal to 27.95 percent of safe yield (safe yield is set at 232,100 AFY, 27.95 percent of this is 64,872 AF);
- An obligation of Valley District to provide replenishment for any extractions from the SBBA by non-plaintiffs (entities in the Valley District service area) in aggregate in excess of 72.05 percent of safe yield (safe yield is set at 232,100 AFY, 72.05 percent of this is 167,228 AF);
- An obligation of Western Municipal Water District of Riverside County (Western) to replenish the Colton and Riverside basins if extractions for use in Riverside County in aggregate exceed certain specific amounts; and
- An obligation of Valley District to replenish the Colton and Riverside basins if water levels are lower than certain specific water level elevations in specified wells.

The *Western* Judgment identifies regional representative agencies to be responsible, on behalf of the numerous parties bound thereby, for implementing the replenishment obligations and other requirements of the judgment. The representative entities for the *Western* Judgment are Valley District and Western. Valley District acts on behalf of all defendants dismissed from the *Western* Judgment, and similarly, Western acts on behalf of the Plaintiffs and other dismissed parties within the Western service area. Plaintiff parties with specific rights to produce 27.95 percent of the safe yield from the SBBA are the City of Riverside, Riverside Highland Water Company, Meeks & Daley Water Company, and the Regents of the University of California.

The *Western* Judgment contemplates that the parties will undertake “new conservation” which is defined as any increase in replenishment from natural precipitation which results from operation of works and facilities not in existence as of 1969, other than works installed to offset losses from flood control channelization. The *Western* Judgment specifies that the parties to the Judgment have the right to participate in any new conservation projects, provided they pay the

appropriate share of the cost. The net effect of new conservation is an increase in pumping rights by the Plaintiffs and “credits” for the non-Plaintiffs. A copy of the *Western Judgment* is provided in Appendix C.

2.3.2 Orange County Judgment

In 1963, the Orange County Water District (OCWD) filed suit against substantially all water users in the area tributary to Prado Dam seeking adjudication of water rights on the Santa Ana River. The litigation ultimately involved over 4,000 served water users and water agencies, the four largest of which were OCWD, Valley District, Western, and the Chino Basin Municipal Water District (now the Inland Empire Utilities Agency). Given the magnitude of the potential litigation, these four districts and other parties developed a settlement that was approved by the Orange County Superior Court in a stipulated judgment entered on April 17, 1969. *Orange County Water District v. City of Chino et. al.*, Case No. 117628 (*Orange County Judgment*). The *Orange County Judgment* imposes a physical solution that requires parties in the upper Santa Ana River watershed to deliver a minimum quantity of water to points downstream including Riverside Narrows and Prado Dam. A provision of the *Orange County Judgment* related to conservation establishes that, once the flow requirements are met, the Upper Area parties “may engage in unlimited water conservation activities, including spreading, impounding, and other methods, in the area above Prado Reservoir.” The *Orange County Judgment* is administered by the five member Santa Ana River Watermaster that reports annually to the court and the four representative agencies. Valley District, the Inland Empire Utilities Agency, and Western nominate one member each to the Watermaster, OCWD nominates two members, and members are appointed by the court. A copy of the *Orange County Judgment* is provided in Appendix C.

2.3.3 1961 Rialto Basin Decree

The Rialto Basin Decree was described previously in Section 2.2.2. A copy of the Rialto Basin Decree is provided in Appendix C.

2.3.4 Seven Oaks Accord

On July 21, 2004, Valley District, Western, the City of Redlands, East Valley Water District, Bear Valley Mutual Water Company, Lugonia Water Company, North Fork Water Company, and Redlands Water Company signed a settlement agreement known as the Seven Oaks Accord (Accord). The Accord calls for Valley District and Western to recognize the prior rights of the water users for a portion of the natural flow of the Santa Ana River. In exchange, the water users agree to withdraw their protests to the water right application submitted by Valley District on behalf of itself and Western. All the parties to the Accord have agreed to support the granting of other necessary permits to allow Valley District and Western to divert water from the Santa Ana River. By means of the Accord, Valley District agreed to modify its water right applications to incorporate implementation of the Accord. Additionally, the Accord requires Valley District and Western to develop a groundwater spreading program in cooperation with other parties, “That is intended to maintain groundwater levels at the specified wells at relatively constant levels, in spite of the inevitable fluctuations due to hydrologic variation.” In response, local agencies included groundwater management in the *Upper Santa Ana River Integrated Regional Water Management Plan* and have collectively prepared a Regional Water Management Plan annually since 2008.

2.3.5 Integrated Regional Water Management Plan

The 2007 Upper Santa Ana River Integrated Regional Water Management Plan (IRWMP) is consistent with the content and requirements of the Groundwater Management Planning Act of 2002. The IRWMP contains three Basin Management Objectives:

1. Maximize conjunctive use and increase ability collect and recharge storm and flood flows;
2. Reduce risk of liquefaction; and
3. Protect groundwater quality.

The IRWMP includes a multi-step process which results in an annual SBBA Management Plan:

1. Collect groundwater data (groundwater levels, water quality, storage).
2. Evaluate compliance with Judgments, accords, and agreements
3. Choose water spreading targets
4. Choose water extraction targets
5. Draft Annual management plan, entitled *Regional Water Management Plan*, for approval by the Valley District and Western Board of Directors
6. Recommend any new projects to help achieve objectives

The 2007 IRWMP is included in Appendix E.

2.3.6 Annual Regional Water Management Plan

The IRWMP stakeholders formed the Basin Technical Advisory Committee (known as the BTAC) to develop the annual water management plan. Participation in the BTAC is open to any interested agency. The agencies currently participating in the BTAC are:

Western	City of Loma Linda
City of Riverside	City of Redlands
Valley District	East Valley Water District
Bear Valley Mutual Water Company	West Valley Water District
San Bernardino Municipal Water Department	San Bernardino Valley Water Conservation District
Yucaipa Valley Water District	San Bernardino County Flood Control District

The BTAC works cooperatively and strives to make decisions by consensus. The 2010 Regional Water Management Plan is included in Appendix E.

2.3.7 Settlement Agreement with San Bernardino Valley Water Conservation District

Within the settlement agreement dated August 9, 2005, Valley District, Western, and the San Bernardino Valley Water Conservation District entered into a settlement agreement whereby the agencies will work cooperatively to develop an annual groundwater management plan. Since both parties are members of the BTAC, this requirement is being met by the BTAC's Regional Water Management Plan which largely emphasizes groundwater management.

2.4 Transfers, Exchanges, and Groundwater Banking Programs

2.4.1 Transfers and Exchanges

Transfers and exchanges are discussed in chapters for each individual agency.

2.4.2 Groundwater Banking Programs

Multiple agencies within the Valley District service area artificially recharge water for later use. Valley District and the San Bernardino Valley Water Conservation District are the primary recharge agencies for the SBBA.

Valley District cooperates in a program to help replenish groundwater, using both SWP water and local runoff. Valley District takes delivery of SWP supplies at the Devil Canyon Power Plant Afterbay. Water can then be conveyed westward and/or eastward to various spreading grounds. Valley District has been conducting groundwater recharge activities in the SBBA since 1972. The San Bernardino Valley Water Conservation District and its predecessors have

conducted water conservation (groundwater recharge) activities since 1912 in areas that overlie the SBBA.

The IRWMP explored conjunctive use scenarios and concluded that they were feasible, given the construction of additional facilities. However, it also states any future conjunctive use projects would need to be analyzed prior to implementation to ensure compliance with the terms and conditions of the various existing Judgments, decrees, and agreements.

2.5 Local Water Supply Reliability

2.5.1 Known Groundwater Contaminant Plumes

In the past, the SBBA was affected by four groundwater contaminant plumes. Plumes in the basin include (1 and 2) the Newmark and Muscoy plumes near the Shandin Hills, which are Superfund sites with Trichloroethylene (TCE) and Tetrachloroethylene (PCE); (3) the Norton TCE and PCE plume, and (4) the Crafton-Redlands plume, with TCE and lower levels of PCE and debromochloropropane (DBCP). The Rialto and Colton areas are currently affected by both perchlorate and Methyl Tertiary Butyl Ether (MTBE) contamination. Table 2-5 provides a summary of known contaminant plumes.

**TABLE 2-5
SUMMARY OF KNOWN CONTAMINANT PLUMES**

Name	Constituent(s)	Location
Newmark	TCE, PCE	Northwestern portion City of San Bernardino
Muscoy	TCE, PCE	Northwestern portion City of San Bernardino
Norton	TCE, PCE	Southwest of San Bernardino International Airport
Crafton-Redlands	TCE, Perchlorate	Cities of Redlands and Loma Linda
Rialto	Perchlorate	City of Rialto
North Riverside	MTBE	Cities of Rialto and Colton

2.5.1.1 Newmark and Muscoy Plumes

In 1980, the State of California Department of Health Services discovered and investigated dissolved-phase chlorinated volatile organic compounds (VOCs) contaminants in several municipal water supply wells within the northern San Bernardino/Muscoy region. Following this discovery, several investigations were conducted to identify potential sources of the VOC contamination. On March 30, 1989, the United States Environmental Protection Agency (EPA) placed this region on the National Priorities List, releasing federal funds to investigate and clean up the area, now identified as the Newmark Groundwater Contamination Superfund Site (Newmark Superfund Site). The EPA initiated the Remedial Investigation/Feasibility Study process for the Newmark Superfund Site in 1990, focusing entirely on the Newmark plume. Earlier investigations indicated the area contained a second groundwater contamination plume, referred to as the Muscoy plume. Further investigation indicated both plumes emanate from the same area northwest of the Shandin Hills, suggesting contaminants contributing to the Newmark and Muscoy plumes may have originated from the same source. In 1992, the EPA expanded the Newmark Superfund Site Remedial Investigation to include the Muscoy plume

after concluding the two plumes likely originated from the same source area. EPA has reported the primary suspected source of VOCs in the Newmark and Muscoy plumes is the former Camp Ono army base.

The principal contaminants identified in investigations since 1980, and the main contaminants of concern, are PCE and TCE.

Under the federal Superfund Program, the EPA has implemented cleanup of these plumes and facilities are operated by the City of San Bernardino. The Newmark treatment system consists of two separate extraction well networks: (1) the Newmark North facilities and (2) the Newmark Plume front. The Newmark North facilities are located in the northwestern portion of the Newmark plume to inhibit further downgradient migration of contaminated groundwater along the north side of the Shandin Hills through a narrow gap between bedrock outcroppings and the San Andreas Fault. Extracted groundwater is treated using seven, pairs of 20,000-pound granular activated carbon (GAC) vessels referred to as the Newmark North Treatment Plant. The Newmark North facilities also include five monitoring well clusters to monitor water levels and VOCs for evaluating the effectiveness of the Newmark North extraction well network.

The second network, referred to as the Newmark Plume Front, is located along the leading edge of the Newmark plume to protect uncontaminated portions of the aquifer. Water extracted from this network is treated using eight, pairs of 20,000-pound GAC vessels located at the Waterman Treatment Plant. The Newmark Plume Front facilities also include six monitoring well clusters used to monitor water levels and VOCs for evaluating the effectiveness of the Newmark Plume Front extraction well network (SBMWD 2010).

An extraction system consisting of six additional extraction wells, referred to as the Muscoy plume extraction well network, has been installed in the downgradient area of the Muscoy plume. Five of the extraction wells began preliminary operations in April 2005. An additional extraction well was installed to address capture deficiencies in the shallow aquifer and began operations in May 2007. The Muscoy plume extraction well network is located up gradient of the leading edge of dissolved VOCs in groundwater to inhibit further migration of VOCs to the south. Extracted water from the six extraction wells is treated using 12 pairs of 30,000-pound granular GAC vessels located at the 19th Street Treatment Plant. The Muscoy plume facilities also include eight monitoring well clusters to monitor water levels and VOCs for evaluating the effectiveness of the Muscoy plume extraction well network.

As described earlier, the City of San Bernardino operates and maintains the Newmark and Muscoy plume treatment networks. The City does so as party to a consent decree lodged with the United States District Court, Central District of California, Western Division (Court), on August 18, 2004. The Consent Decree requires the City of San Bernardino to implement an ordinance to ensure that activities occurring in the management zone do not interfere or cause pass-through of contaminants from the Newmark and Muscoy plumes. The City of San Bernardino Ordinance No. MC-1221, approved in March 2006, establishes the management zone boundaries within the City of San Bernardino for water spreading and water extraction activities. A permit from the City of San Bernardino pursuant to the provisions outlined in the ordinance must first be obtained for any spreading (artificial recharge) or extracting (well pumping) within the Management Zones, as defined in the ordinance.

Following treatment, water extracted by the plume treatment networks is used to supplement SBMWD's water supply. It appears the cleanup efforts will be adequate to protect 32 down

gradient wells. Based on current conditions the Newmark and Muscoy plumes are not anticipated to affect SBBA water supply reliability. However, water quality issues are constantly evolving. Agencies of the San Bernardino Valley will continue to take action to protect and treat supply when needed, but it is well recognized water quality treatment can have significant costs.

2.5.1.2 Norton Plume

The Norton Plume, located just to the southwest of the San Bernardino International Airport (formerly Norton Air Force Base) consists primarily of TCE and PCE. In the past, the plume had impaired 10 wells owned by the City of Riverside and the City of San Bernardino. Cleanup efforts by the Air Force, consisting of soil removal, soil gas extraction, and groundwater treatment, have significantly reduced this plume. The treatment plant now operates in a standby mode (SAWPA 2002). Monitoring of contaminants continues, but the Santa Ana Regional Water Quality Control Board (RWQCB) has issued site closure, meaning the RWQCB believes the corrective action plan for the site has been satisfactorily implemented (personal communication K. Saremi, Santa Ana Regional Water Quality Control Board, 3/29/2011).

Based on current conditions the Norton Plume is not anticipated to affect SBBA water supply reliability. However, water quality issues are constantly evolving. Agencies of the San Bernardino Valley will continue to take action to protect and treat supply when needed, but it is well recognized water quality treatment can have significant costs.

2.5.1.3 Crafton-Redlands Plume

In the past, two commingled plumes, comprising the Crafton-Redlands plume, impacted water supply wells for the cities of Riverside, Redlands, and Loma Linda, including Loma Linda University wells. One plume contains TCE and the other perchlorate; both were in the upper 300 to 400 feet of groundwater. TCE had been measured in water supply wells at over 100 parts per billion (ppb), over 20 times the allowed maximum contaminant level (MCL) of 5 ppb. Currently, however, monitoring wells indicate concentrations are less than 1 micrograms per liter ($\mu\text{g/L}$) though, perchlorate has recently been observed as high as 70 parts per billion (ppb) near the former Lockheed site in one monitoring well. As required by the Santa Ana Regional Water Quality Control Board, the Lockheed Martin Corporation (Lockheed):

- Prepared a groundwater monitoring program. Lockheed currently samples wells and system compliance points in accordance with the groundwater monitoring program approved on March 3, 2006. Sampling for TCE and perchlorate is performed monthly and submitted to the Santa Ana RWQCB in monthly reports (Letter, Lockheed Martin to Santa Ana Regional Water Quality Control Board, March 11, 2011).
- Prepares TCE and perchlorate distribution maps based on a comprehensive sampling event conducted annually in mid-summer. The sampling event and other sampling events are used to calibrate the fate and transport hydraulic model.
- Maintains a three-dimensional groundwater flow and transport model for the plume area.
- Prepared a Remedial Action Plan.
- Installed liquid phase granulated activated carbon and/or ion exchange (IX) treatment at three City of Riverside Regional Treatment Facilities and two wellheads to facilitate

plume containment and mass removal, to meet drinking water requirements, and maintain beneficial use of the water resource.

- Installed IX treatment for Loma Linda University's Anderson Wells No. 2 and 3. Treatment at Anderson Well No. 3 is no longer necessary because the perchlorate concentration is less than 4 µg/L.
- Installed an arsenic treatment system capable of treating up to 3,000 gallons per minute (gpm) from the City of Loma Linda's Mountain View #3 and/or #5 (wells drilled by Lockheed to replace capacity of wells that were impacted by perchlorate and TCE).
- Lockheed, along with the City of Loma Linda, have completed two new wells, Richardson #5 and Mountain View #6. A new treatment plant (Richardson Treatment Plant) consisting of liquid phase granulated activated carbon and IX treatment is under construction to treat the water produced from the newly installed Richardson #5 and Mountain View #6 wells. These wells will aid in plume containment and perchlorate and TCE mass removal.
- Lockheed and the City of Redlands recently installed IX treatment at the city's Rees well. Monitoring performed by Lockheed upgradient of the Rees well has indicated a small perchlorate plume.

Monitoring data for two wells operated by the City of Redlands has indicated increasing perchlorate concentrations; however, the water produced is below the MCL of 6 µg/L. A small perchlorate plume has also been identified near the City of Redlands Agate #2 well. Redlands and Lockheed are in the process of constructing additional treatment.

Based on current conditions and the fact that treatment is installed and other measures are being constructed, the Redlands-Crafton Plume is not anticipated to affect SBBA water supply reliability. However, water quality issues are constantly evolving. Agencies of the San Bernardino Valley will continue to take action to protect and treat water supplies when needed, but it is well recognized water quality treatment can have significant costs.

2.5.1.4 Rialto Area Perchlorate Plume

Since 2002, the Santa Ana RWQCB has been conducting an investigation of groundwater contamination in the area of the City of Rialto. The focus of the investigation has been facilities located on a 160-acre site in Rialto. The site has also been designated as a Superfund site by the US EPA. In 2005 the Santa Ana RWQCB Executive Officer issued a Cleanup and Abatement Order and subsequent amendments naming a number of responsible parties. Since that time, the Cleanup and Abatement Order has been the subject of challenges in petitions filed by entities named as parties responsible for the contamination. The ongoing legal wrangling and persistent chemical contamination by TCE, perchlorate, and nitrates has required both WVWD and the City of Rialto to avoid use of certain wells and certain water sources.

WVWD and the City of Rialto have planned and designed a wellhead treatment system to protect local groundwater supplies. The wellhead treatment system will use a fluidized bed biological treatment system to breakdown perchlorate to chloride, and nitrate to nitrogen gas. The system will treat groundwater at a rate of about 2,000 gallons per minute. WVWD and the City plan to treat groundwater pumped from two existing wells: Rialto Well No. 6 and WVWD Well No. 11. The Groundwater Wellhead Treatment System Project represents a scientific first in California; utilizing a state-approved biological treatment process employing micro-organisms

to destroy the perchlorate and other contaminants in drinking water and minimize the need for waste handling and disposal. Construction on the Groundwater Wellhead Treatment System Project is anticipated to start in May 2011.

The Groundwater Wellhead Treatment System Project will allow WVWD to restore a portion of its groundwater basin supply. Given the treatment to be provided by the Groundwater Wellhead Treatment System Project, the Rialto Area Perchlorate Plume is not anticipated to further negatively affect WVWD supply. However, water quality issues are constantly evolving. Agencies of the San Bernardino Valley will continue to take action to protect and treat supply when needed, but it is well recognized that water quality treatment can have significant costs.

2.5.1.5 North Riverside Basin MTBE Contamination

In 1988 the California Regional Water Quality Control Board, Santa Ana Region issued a Cleanup and Abatement Order to the SFPP Colton Fuel Terminal (owned by Kinder Morgan) located in Bloomington, California. The Terminal which is located just south of the I-10 freeway on the east side of Riverside Avenue is a bulk petroleum storage and distribution facility which was built in the 1950s. It currently occupies 82 acres and contains 32 refined petroleum product tanks and fuel-loading racks where transport tanker trucks are filled.

In response to the Cleanup and Abatement Order a monitoring and extraction well network for the Terminal was constructed. It consists of 131 wells in and around the Terminal as well as 14 soil vapor extraction wells. The site samples for Benzene, methyl tertiary butyl ether (MTBE) and tertiary butyl alcohol (TBA).

WVWD has identified that a few wells, located near the Terminal are vulnerable to MTBE contamination. Two WVWD wells are located south of the Terminal. Wells No. 40 and 41 are sampled monthly. No MTBE has been detected in these wells or any other WVWD Wells.

WVWD will continue to monitor MTBE in its wells. Existing technologies are available to treat groundwater affected by MTBE (air stripping, granulated activated carbon, biofiltration, advanced oxidation processes). For these reasons, MTBE is not anticipated to create a long-term effect on water supplies. It is recognized however, that treatment of supplies can have significant costs and delay the full use of a supply source.

2.5.2 Salinity Objectives - SBBA

The 1995 Water Quality Control Plan for the Santa Ana River Basin, as amended in 2004, contains water quality objectives for nitrogen and total dissolved solids (collectively called "Salinity Objectives") in groundwater. These standards were set with the objective of protecting long-term conjunctive use of the basin. In June 2007, multiple water entities in the Upper Santa Ana River watershed and the Santa Ana Regional Water Quality Control Board entered into a Cooperative Agreement to "Protect Water Quality and Encourage the Conjunctive Uses of Imported Water in the Santa Ana River Basins." The Cooperative Agreement is intended to allow parties that recharge imported water within the Santa Ana Region to continue recharge while monitoring and improving groundwater basin quality. Specifically the Cooperative Agreement requires parties that undertake groundwater recharge with imported water to:

- collect data on ambient water quality in each groundwater management zone;

- track the amount and quality of imported water recharged in each groundwater management zone;
- project ambient water quality in each groundwater management zone for the subsequent 20 years; and
- report the data described above every three years.

As part of the 2007 IRWMP, entities in the San Bernardino Area evaluated how and if nitrogen and total dissolved solids (TDS) levels could impact the ability to use imported water for recharge. Modeling performed for the 2007 IRWMP found that historic yearly and monthly SWP nitrogen levels were always lower than the lowest ambient level in any of the groundwater management zones. Thus nitrogen is not anticipated to limit the use of SWP water in the San Bernardino Valley. However, review of SWP water quality data indicates that in some dry-year and multiple dry-year periods, SWP water TDS levels could exceed ambient groundwater TDS levels. However, since SWP water project supplies would be limited in dry-periods to between 12,300 to 35,900 AFY, and since TDS levels would be much lower during other times, the long-term impacts are difficult to quantify. In January 2008 Valley District entered into an agreement with the Santa Ana Regional Water Quality Control Board which requires the development of a water quality report every three years. The intent of this report is to identify any potential water quality issues early on so they can be mitigated and to avoid any long-term impacts.

At the current time, water quality is not expected to limit the use of SWP water. However, water quality issues are constantly evolving. Agencies of the San Bernardino Valley will continue to take action to protect and treat supply when needed, but it is well recognized water quality treatment can have significant costs.

2.5.3 Inland Empire Brine Line

The Inland Empire Brine Line (formerly "Santa Ana Regional Interceptor, SARI") was built over a period of 25 years (1975-2000) to collect and transport industrial brine that could not be treated at local (inland) wastewater treatment facilities. The Brine Line runs from the City of San Bernardino to a point just downstream of the Prado Dam. Another branch of the Brine Line runs from Lake Elsinore northwesterly until joining the Brine Line. The two branches combine into one branch and extend through Orange County to an ocean outfall. In all the SARI is 93 miles long. A thirteen mile connection to the Brine Line is being constructed by YVWD (SAWPA 2010). The Brine Line is a tremendous asset to the Valley District service area by enabling the transport of salts out of the area.

2.5.4 Chino and Yucaipa Basins Salts

The buildup of TDS in groundwater and nitrogen levels are on-going water quality challenges in the Chino and Yucaipa basins. Despite the construction and operation of the Inland Empire Brine Line, a salt imbalance remains. Modeling performed by the Santa Ana Watershed Project Authority has indicated that water from the Chino and Yucaipa basins could consistently exceed the 500 mg/L secondary MCL in the future if mitigation measures are not taken.¹

¹ EPA has established National Secondary Drinking Water Regulations. EPA does not enforce these "secondary MCLs." They are established only as guidelines to assist public water systems in managing their drinking water

The Salinity Management Plan (SAWPA 2010) identifies potential long-term options to address the need for additional salt removal, including:

- Best management practices, source control measures aimed at reducing salt mass balances that would otherwise be discharged to ground or surface waters, or introduced into the wastewater stream. Examples include: eliminating salt-based domestic water softening devices, promoting the use of low-salt detergents, addressing salt runoff, and implementing pre-treatment programs.
- Desalters for water supply: Increase the amount of water desalted so as to create blended water with salinity less than 500 mg/L.
- Desalters for wastewater: Avoid adding salt to groundwater by adding desalination to all or a portion of the wastewater effluent stream. Providing advanced treatment to secondary effluent would also increase the possibility of reusing the effluent, including indirect potable water reuse via groundwater recharge or surface storage augmentation.
- Brine concentration. Increase the efficiency of desalters to limit the amount of liquid waste included in the brine stream entering the SARI.

WVWD can pump water from the Chino Basin. YVWD can pump water from the Yucaipa Basin. Both these agencies recognize that groundwater from these basins may require treatment for TDS and nitrates.

2.5.5 Summary of Water Quality Impacts on Supply Reliability

As described in the pages above, water quality is a concern in the San Bernardino Valley which the water agencies monitor, track, and implement treatment as necessary. In addition to the groundwater plumes described above, there are other contaminants in the basin, including but not limited to nitrate and DBCP, which can require costly treatment. There are also emerging contaminants and new water quality regulations which could impact the ability of water purveyors to meet customer demands without potentially expensive treatment. Based on current conditions and knowledge, water quality is not anticipated to affect regional water supply reliability (Table 2-6). However, water quality issues are constantly evolving. It is well recognized water quality treatment can have significant costs.

for aesthetic considerations, such as taste, color and odor. These contaminants are not considered to present a risk to human health at the secondary MCL.

**TABLE 2-6
CURRENT AND PROJECTED WATER SUPPLY CHANGES DUE TO
WATER QUALITY-PERCENTAGE CHANGE**

Water Source	2010	2015	2020	2025	2030	2035
Groundwater	0%	0%	0%	0%	0%	0%
Imported	0%	0%	0%	0%	0%	0%
Recycled Water	0%	0%	0%	0%	0%	0%
Local Surface Water	0%	0%	0%	0%	0%	0%

2.6 Planned Water Supply Projects and Programs

2.6.1 Seven Oaks Supply

Valley District and Western jointly filed two applications with the State Water Resources Control Board to appropriate water from the Santa Ana River, made available through the construction of Seven Oaks Dam. Two permits to begin diversion were issued by the State Water Resources Control Board in July 2010 and Valley District and Western also diverted water under “temporary” permits issued by the State Water Resources Control Board in February 2008. It was estimated that up to 200,000 AF could be available in very wet years, with an annual average of between 10,800 and 27,000 AF. The proposed project has the following main components: (i) the direct diversion of water from the Santa Ana River, (ii) regulatory storage of water in Seven Oaks Reservoir, (iii) the use of existing facilities (generally pipelines and surface water storage facilities but including the use of underground storage basins), and (iv) the construction of various conveyance facilities (generally pipelines) to move water from the Santa Ana River and Seven Oaks Reservoir to retail purveyors or to underground storage basins and surface storage facilities. Table 2-7 reflects anticipated yield from the Seven Oaks Supply in an average, dry, and multiple dry year. Estimates of yield have been derived from modeling prepared as part of Valley District and Western’s water rights application to the State Water Resources Control Board (Valley District/Western 2007).

2.6.2 Conjunctive Use Strategies

Building upon work performed as part of the 2007 IRWMP, agencies in the San Bernardino Valley are evaluating additional conjunctive use in the SBBA. As part of the 2007 IRWMP, the following activities were undertaken during the planning process to:

- Assess baseline groundwater conditions
- Develop operational strategies for management of groundwater basins, including groundwater levels and quality considerations
- Develop groundwater production and artificial recharge strategies
- Develop a groundwater monitoring plan for collection, storage, and use of groundwater level and quality data, as well as assessment of the groundwater management strategies and their impacts on groundwater levels.

These efforts were enhanced by the development and refinement of a groundwater model for the SBBA. The key model outputs include groundwater levels, groundwater flow direction, and water quality. The model is a tool to design appropriate levels of groundwater conjunctive management while meeting the stated Basin Management Objectives.

Various conjunctive use strategies were evaluated including additional recharge of 40,000 AF, 90,000 AF, and 140,000 AF. Modeling studies have indicated that additional recharge is feasible, but will require additional recharge basins, new wells, and new pipeline facilities. Modeling studies have also indicated that:

- A 40,000 AF conjunctive use program could yield 40,000 AF in a single dry year and 100,000 AF during a 3-year drought
- A 90,000 AF conjunctive use program could yield 120,000 AF in a single dry year and 320,000 AF over a 3-year drought.
- A 140,000 AF conjunctive use program could yield 160,000 AF in a single dry year and 420,000 AF over a 3-year drought.

Before undertaking these additional recharge programs it will be necessary to confirm model assumptions, confirm that operations will be consistent with all applicable groundwater management plans, judgments, decrees, and agreements. In addition, it will be necessary to plan, design, and build additional groundwater recharge facilities, wells, treatment facilities, and conveyance pipelines. Because these conjunctive use strategies are still in the planning stages, in Table 2-7, it is conservatively assumed in this Plan that there is no additional yield from these programs in the immediate future.

**TABLE 2-7
PLANNED WATER SUPPLY PROJECTS (AFY)**

Project Name	Wet-Year Yield	Normal- Year Yield	Single-Dry Year Yield	Multiple-Dry Water Year Yield			
				Year 1	Year 2	Year 3	Year 4
Seven Oaks Supply	200,000	10,800	0	0	0	0	0
Conjunctive Use Strategies	(a)	(a)	(a)	(a)	(a)	(a)	(a)

Note: (a) This program is currently in the planning stages.

2.7 Development of Desalination

2.7.1 Opportunities for Brackish Water and/or Groundwater Desalination

Desalination, or desalting, is a process to create fresh water from water containing higher salt levels. Desalination can use a thermal distillation process or a membrane process (such as electrodialysis or reverse osmosis). All desalination processes produce a brine waste stream that must be disposed. The need for brackish groundwater desalting is somewhat limited in the San Bernardino Valley. While elevated salts are a concern in the groundwater basins of the Western Judgment (SBBA, Rialto-Colton, Riverside), average TDS levels in all of these basins are currently below 500 mg/L (DWR 2003). However, elevated salts are an issue for retailers that overlie the San Timoteo Groundwater Basin and agencies in this basin are considering

implementing desalter operations. The area is fortunate to have a brine line which can transport non-reclaimable waste, by gravity, from the City of San Bernardino Wastewater Treatment Plant to the Orange County Sanitation District's treatment plant.

2.7.2 Opportunities for Seawater Desalination

Seawater desalination would require two major components:

- (1) The development or financial contribution to a seawater desalination facility and associated facilities (e.g., brine disposal facility); and
- (2) The exchange of a like amount of SWP water for the amount of water desalted.

The development of (or financial participation in) a new seawater desalination project, while costly, is being investigated by other wholesale and retail water agencies in southern California. Because the San Bernardino Valley is an inland area, in order for desalination to work it would be necessary for agencies in the San Bernardino Valley to join with other water purveyors in the development of a coastal desalination facility and then receive water from the SWP supplies of other participants via an exchange. It is not cost-effective for the San Bernardino Valley to receive direct delivery of desalted ocean water.

Seawater desalination is an alternative that is technically viable. However, production and treatment costs have historically been several times higher than those of SWP costs and conventional treatment.

The Municipal Water District of Orange County has estimated that ocean desalination will cost \$1,300 per AF (May 2010), not including treatment, conveyance, and storage costs. This cost is several times greater than groundwater costs of the various agencies in the San Bernardino Valley (\$150 to \$330 per AF) and is higher than SWP costs (approximately \$500 per AF in 2010). San Bernardino agencies will continue to evaluate the viability of desalinated water supplies.

2.8 Recycled Water

The potential for recycled water use for each retailer is described in their respective chapters. Recycled water is being developed by individual agencies in the San Bernardino Valley. Further, to be consistent with the provisions of *The Water Conservation Bill of 2009* (SBX7-7) use of recycled water must be tracked and accounted for by individual agency service area. For these reasons, recycled water is not being treated as a regional water source in this UWMP.

2.9 Anticipated Regional Water Supply Sources in Normal, Dry, and Multiple Dry Years

Tables 2-8, 2-9, and 2-10 provide details on anticipated regional water supply sources in normal, dry, and multiple dry year periods.

**TABLE 2-8
REGIONAL WATER SUPPLY - NORMAL YEAR (AF)**

	2010	2015	2020	2025	2030	2035
Surface Water						
SBBA Surface Water ^(a)	39,000	39,000	39,000	39,000	39,000	39,000
Seven Oaks Supply	10,800	10,800	10,800	10,800	10,800	10,800
Glen Oak	350	350	350	350	350	350
<i>Sub-Total Surface Water</i>	<i>50,150</i>	<i>50,150</i>	<i>50,150</i>	<i>50,150</i>	<i>50,150</i>	<i>50,150</i>
Groundwater						
SBBA Groundwater ^(a)	193,100	193,100	193,100	193,100	193,100	193,100
SBBA- Return Flows Extraction above the Safe Yield ^(b)	10,300	10,300	13,700	19,300	23,600	27,200
Rialto-Colton Groundwater	17,675	17,675	17,675	17,675	17,675	17,675
Riverside North Groundwater	9,000	9,000	9,000	9,000	9,000	9,000
Yucaipa, Beaumont, San Timoteo Groundwater Supplies	12,100	16,100	17,700	17,700	17,700	17,700
Chino	0	0	3,000	3,000	3,000	3,000
<i>Sub-Total Groundwater</i>	<i>242,175</i>	<i>246,175</i>	<i>254,175</i>	<i>259,775</i>	<i>264,075</i>	<i>267,675</i>
SWP Water						
Direct Deliveries	21,790	23,890	25,390	26,990	27,090	27,090
SWP Storage ^(c)	39,770	37,670	36,170	34,570	34,470	34,470
<i>Sub-Total SWP Water^(d)</i>	<i>61,560</i>	<i>61,560</i>	<i>61,560</i>	<i>61,560</i>	<i>61,560</i>	<i>61,560</i>
Total All Supplies^(e)	353,885	357,885	365,885	371,485	375,785	379,385

Notes:

- (a) The San Bernardino Basin is managed whereby total safe yield is a combination of Surface Water and Groundwater totaling 232,100 AFY.
- (b) Estimated based on demands.
- (c) Assumes SWP Water is stored in wet years so that it can supplement lower deliveries of SWP water in dry years.
- (d) Does not include SWP water from San Geronio Pass Water Agency from YVWD.
- (e) Does not include recycled water as this is considered to be a local rather than regional source.

**TABLE 2-9
REGIONAL WATER SUPPLY - SINGLE-DRY YEAR (AF)**

	2010	2015	2020	2025	2030	2035
Surface Water						
SBBA Surface Water ^{(a),(b)}	21,500	21,500	21,500	21,500	21,500	21,500
Seven Oaks Supply ^(c)	0	0	0	0	0	0
Glen Oaks	175	175	175	175	175	175
<i>Sub-Total Surface Water</i>	<i>21,675</i>	<i>21,675</i>	<i>21,675</i>	<i>21,675</i>	<i>21,675</i>	<i>21,675</i>
Groundwater						
SBBA Groundwater ^(a)	210,600	210,600	210,600	210,600	210,600	210,600
SBBA- Return Flows Extraction above the Safe Yield ^(d)	11,300	11,300	15,100	21,200	26,000	29,900
Rialto-Colton Groundwater	17,675	17,675	17,675	17,675	17,675	17,675
Riverside North Groundwater	9,000	9,000	9,000	9,000	9,000	9,000
Yucaipa, Beaumont, San Timoteo Groundwater Supplies	11,500	11,500	13,100	14,700	14,700	14,700
Chino	0	0	3,000	3,000	3,000	3,000
<i>Sub-Total Groundwater</i>	<i>260,075</i>	<i>260,075</i>	<i>268,475</i>	<i>276,175</i>	<i>280,975</i>	<i>284,875</i>
SWP Water						
SWP Deliveries ^(e)	13,338	13,338	13,338	13,338	12,312	12,312
SWP from Storage ^(f)	48,222	48,222	48,222	48,222	49,248	49,248
<i>Sub-Total SWP Water ^(g)</i>	<i>61,560</i>	<i>61,560</i>	<i>61,560</i>	<i>61,560</i>	<i>61,560</i>	<i>61,560</i>
Total All Single-Dry Year Supplies ^(h)	343,310	343,310	351,710	359,410	364,210	368,110

Notes:

- (a) The San Bernardino Basin is managed whereby total safe yield is a combination of Surface Water and Groundwater totaling 232,100 AFY. A decrease in available surface water in any given year does not change available yield from the basin.
- (b) Based on runoff records for Lytle Creek, single-dry water year for SBBA surface water is assumed to be year 1990, with runoff 55% of normal.
- (c) Based on runoff at USGS gage 11510500, single-dry water year for water in this portion of the Santa Ana River is assumed to be year 1990, with runoff 0% of normal.
- (d) Estimated based on demands. Past demands have increased 6-12 percent during dry periods. For this analysis it is estimated that demands will increase 10% during dry periods.
- (e) Single-Dry Year SWP supplies assumed to be 13% of Table A allocation in years 2010 to 2012 and 12% of Table A allocation in years 2030 to 2035.
- (f) In a Normal Year, SWP water not used for direct deliveries is stored. Therefore, it is assumed that in any year Valley District will have its long-term SWP supply (61,560 AF) available through a combination of SWP deliveries and SWP from storage.
- (g) Does not include SWP water from San Geronio Pass Water Agency for YVWD.
- (h) Does not include recycled water as this is considered to be a local rather than regional source.

**TABLE 2-10
REGIONAL WATER SUPPLY - MULTIPLE-DRY YEAR (AF)**

	2010	2015	2020	2025	2030	2035
Surface Water						
SBBA Surface Water ^{(a),(b)}	23,400	23,400	23,400	23,400	23,400	23,400
Seven Oaks Supply ^(c)	0	0	0	0	0	0
Glen Oak	175	175	175	175	175	175
<i>Sub-Total Surface Water</i>	<i>23,575</i>	<i>23,575</i>	<i>23,575</i>	<i>23,575</i>	<i>23,575</i>	<i>23,575</i>
Groundwater						
SBBA Groundwater ^(a)	208,700	208,700	208,700	208,700	208,700	208,700
SBBA- Return Flows Extraction above the Safe Yield ^(d)	11,300	11,300	15,100	21,200	26,000	29,900
Rialto-Colton Groundwater	17,675	17,675	17,675	17,675	17,675	17,675
Riverside North Groundwater	9,000	9,000	9,000	9,000	9,000	9,000
Yucaipa, Beaumont, San Timoteo Groundwater Supplies	12,424	12,424	13,850	15,450	15,450	15,450
Chino	0	0	3,000	3,000	3,000	3,000
<i>Sub-Total Groundwater</i>	<i>259,099</i>	<i>259,099</i>	<i>267,325</i>	<i>275,025</i>	<i>279,825</i>	<i>283,725</i>
SWP Water						
SWP Deliveries ^(e)	33,858	33,858	33,858	33,858	35,910	35,910
SWP from Storage ^(f)	27,702	27,702	27,702	27,702	25,650	25,650
<i>Sub-Total SWP Water ^(g)</i>	<i>61,560</i>	<i>61,560</i>	<i>61,560</i>	<i>61,560</i>	<i>61,560</i>	<i>61,560</i>
Total All Multiple-Dry Year Supplies ^(h)	344,234	344,234	352,460	360,160	364,960	368,860

Notes:

- (a) The San Bernardino Basin is managed whereby total safe yield is a combination of Surface Water and Groundwater totaling 232,100 AFY. A decrease in available surface water in any given year does not change available yield from the basin.
- (b) Based on runoff records for Lytle Creek, multi-dry water year for SBBA surface water is assumed to be years 2002 to 2004, with lowest runoff in that period 60% of normal.
- (c) Based on runoff at USGS gage 11510500, multi-dry water year for water in this portion of the Santa Ana River is assumed to be year 1988-1990, with lowest annual runoff during this period 0% of normal.
- (d) Estimated based on demands. Past demands have increased 6-12 percent during dry periods. For this analysis it is estimated that demands will increase 10% during dry periods.
- (e) Multi-Dry Year SWP supplies assumed to be 33% of Table A allocation in years 2010 to 2025 and 35% of Table A allocation in years 2030 to 2035.
- (f) In a Normal Year, SWP water not used for direct deliveries is stored. Therefore, it is assumed that in any year Valley District will have its long-term SWP supply (61,560 AF) available through a combination of SWP deliveries and SWP from storage.
- (g) Does not include SWP Water from San Geronimo Pass Water Agency for YVWD.
- (h) Does not include recycled water as this is considered to be a local rather than regional source.

2.10 Resource Maximization

For many years, water agencies of the San Bernardino Valley have cooperated to develop studies and plans so as to maximize the use of available resources. Studies and documents include the 2007 Integrated Regional Water Management Plan, the Annual Groundwater Management Plan as well as the development of extensive groundwater and surface water modeling tools. Further, agencies in the San Bernardino Valley area have formed a group to study and address conservation needs in the San Bernardino Valley. The group anticipates having a regional water conservation strategy developed by the end of 2011 and has already started regional conservation measures. Examples are the (1) water conservation education program, (2) Weather Based Irrigation Controllers Program, (3) "climate appropriate" plant promotion with Home Depot stores and other stores and nurseries, and (4) water conservation demonstration garden and California State University San Bernardino. These programs were developed by Valley District to help retailers with their conservation objectives.